

S. Konowalow



Delta College Catalog 1973-74

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1973-1974 GENERAL CATALOG

DELTA COLLEGE

UNIVERSITY CENTER, MICHIGAN 48710

A Publicly Supported Community College Serving the Tri-County Area of Bay, Saginaw, and Midland Counties.
Phone 686-0400 or from Midland 662-4431

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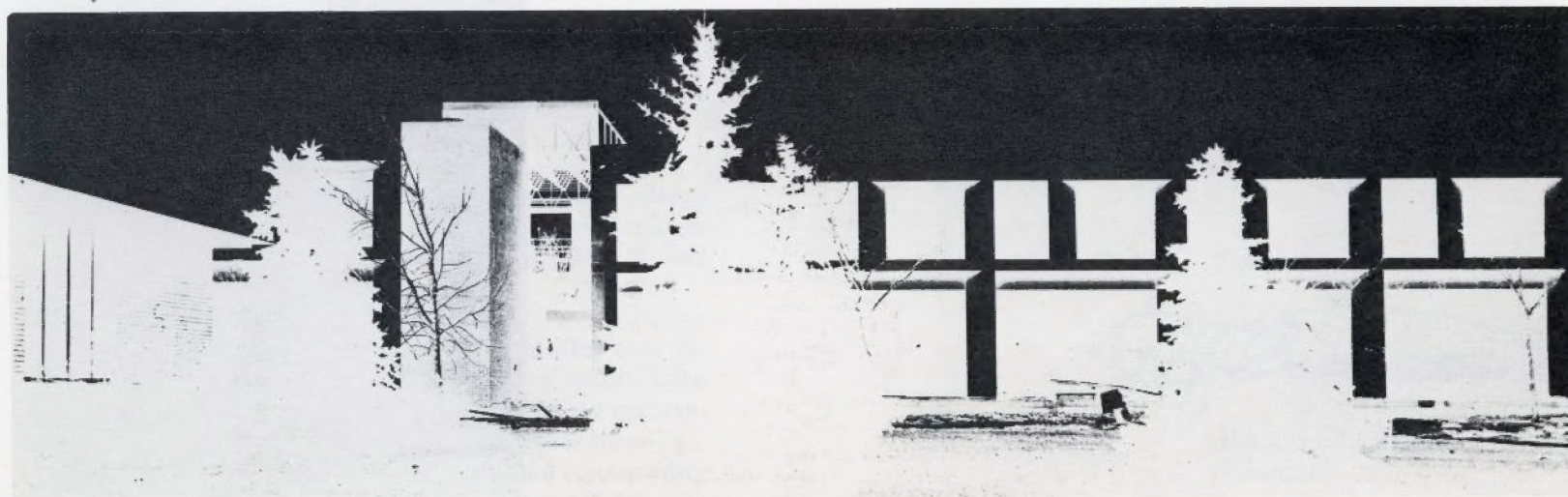
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NEW FINE ARTS AND CLASSROOM BUILDING



PRESIDENT'S MESSAGE

Delta College is a community college created by and for the people of Saginaw, Bay and Midland counties. At Delta we make it our business to relate to people. That's our primary task and we think we do it well.

Last year, for example, nearly 150,000 people took advantage of our academic courses, community services and our television programming over WUCM-TV (Channel 19). An additional 6,000 enrolled in community and women's education programs while over 30,000 utilized the conference and meeting facilities as well as the Planetarium.

We attract the "hungry" students. Nearly 75 % work full-time or part-time while attending classes. About 50 % are enrolled in General Education classes while 50 % are enrolled in Career Programs. Moreover, nearly half the students attending Delta plan to transfer to senior institutions upon graduation. The average age of the Delta student is 24-years, slightly older than those in the four-year institutions. About 750 of them are service veterans and glad to be here.

We offer our students programs designed to meet their individual needs, not classes served up simply as a matter of course.

When our students can't get to the College, we take the College to them through five extension centers. Two of the centers serve the inner city, one in Saginaw and the other in Bay City.

The people of Saginaw, Bay and Midland counties care for their fellow citizens. If they did not they never would have created Delta College. The College is deeply concerned with its social responsibility to the tri-counties as well as its obligation to provide a broad spectrum of educational opportunity for all the citizens of the district.

One area where Delta has made a considerable impact on the community is through its career education programs.

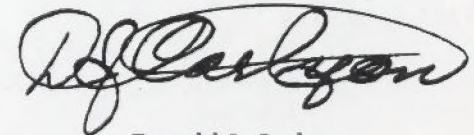
The College has been acclaimed by the business, industrial and professional community for graduating students in such diverse program areas as Health Sciences, Engineering Technologies, Business, Law Enforcement, Broadcasting, Public Service and many others.

In all, more than 40 of these two-year, degree-granting programs are offered, each designed to direct a skilled technician, para-professional, or health auxiliary into a waiting job market.

Moreover, another 35 programs are in various stages of planning with citizen advisory committees helping to assess the need and develop the curriculum.

Traditionally our liberal arts and sciences curricula draw students from all four quartiles of the high school graduating classes in the district. Last fall (1972), for example, 30 % of our Freshman students were graduated from the top quarter of their class, while 25 % came from the second quartile. About 28 % were listed in the third quarter, with 17 % from the fourth quarter category. This profile reflects a balanced student make-up, one which we intend to maintain.

Faithfully,



Donald J. Carlyon
President

COLLEGE CALENDAR 1973-1974

ACADEMIC CALENDAR 1973

DATE	TIME	DAY	ACTIVITY
WINTER TERM			
Jan. 3-5		Wed.-Fri.	Registration*
Jan. 8	7:00 a.m.	Mon.	Classes Begin
April 17	11:00 p.m.	Mon.	Classes End
April 18-21		Wed.-Sat.	Final Exams
April 29		Sun.	Commencement

SPRING SEMESTER

15 Week Session			
April 26, 27		Thurs., Fri.	Registration*
April 30	7:00 a.m.	Mon.	Classes Begin
May 28		Mon.	Memorial Day (College Closed)
May 29	7:00 a.m.	Tues.	Classes Resume
July 4	7:00 a.m.	Wed.	Independence Day (College Closed)
July 5	7:00 a.m.	Thurs.	Classes Resume
Aug 11		Sat.	Classes End

Spring Session (7½ weeks)

April 26, 27		Thurs., Fri.	Registration*
April 30	7:00 a.m.	Mon.	Classes Begin
May 28		Mon.	Memorial Day (College Closed)
May 29	7:00 a.m.	Tues.	Classes Resume
June 20	11:00 p.m.	Wed.	Classes End

Summer Session (7½ weeks)

June 22		Fri.	Registration*
June 25	7:00 a.m.	Mon.	Classes Begin
July 4	7:00 a.m.	Wed.	Independence Day (College Closed)
July 5	7:00 a.m.	Thurs.	Classes Resume
Aug. 15	11:00 p.m.	Wed.	Classes End

FALL SEMESTER

Aug. 27-29		Mon.-Wed.	Registration*
Sept. 4	7:00 a.m.	Tues.	Classes Begin
Nov. 22	7:00 a.m.	Thurs.	Thanksgiving Recess Begins
Nov. 26	7:00 a.m.	Mon.	Classes Resume
Dec. 12	11:00 p.m.	Wed.	Classes End
Dec. 13-17		Thurs.-Mon.	Final Exams

ACADEMIC CALENDAR 1974

DATE	TIME	DAY	ACTIVITY
WINTER SEMESTER			
Jan. 2-4		Wed.-Fri.	Registration*
Jan. 7	7:00 a.m.	Mon.	Classes Begin
April 16	11:00 p.m.	Tues.	Classes End
April 17-20		Wed.-Sat.	Final Exams
April 28		Sun.	Commencement

SPRING SEMESTER

15 Week Session			
April 25, 26		Thurs., Fri.	Registration*
April 29	7:00 a.m.	Mon.	Classes Begin
May 27		Mon.	Memorial Day (College Closed)
May 28	7:00 a.m.	Tues.	Classes Resume
July 4	7:00 a.m.	Thurs.	Independence Day (College Closed)
July 5	7:00 a.m.	Fri.	Classes Resume
Aug. 10		Sat.	Classes End

Spring Session (7½ weeks)

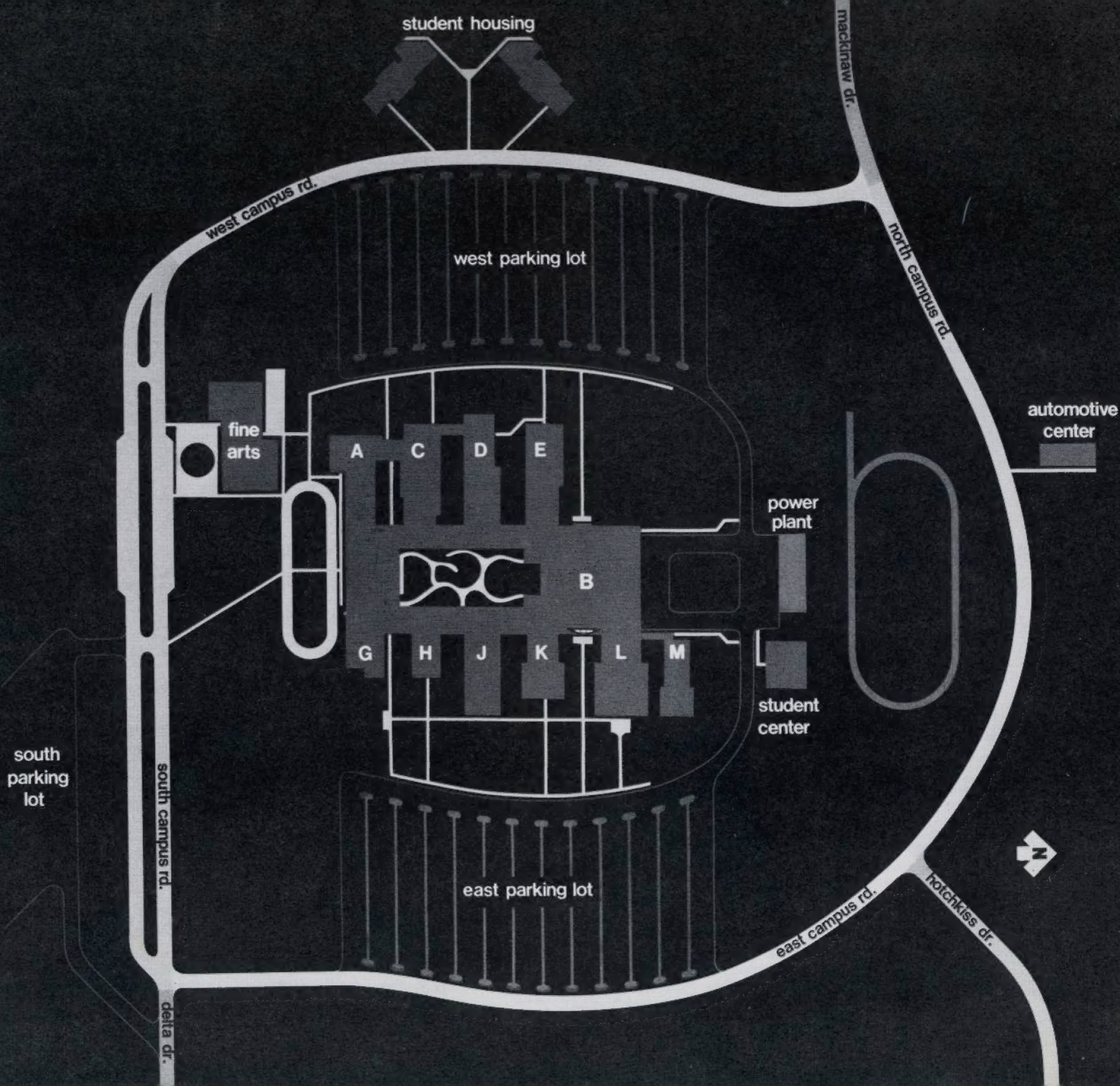
April 25, 26		Thurs., Fri.	Registration*
April 29	7:00 a.m.	Mon.	Classes Begin
May 27		Mon.	Memorial Day (College Closed)
May 28	7:00 a.m.	Tues.	Classes Resume
June 19	11:00 p.m.	Wed.	Classes End

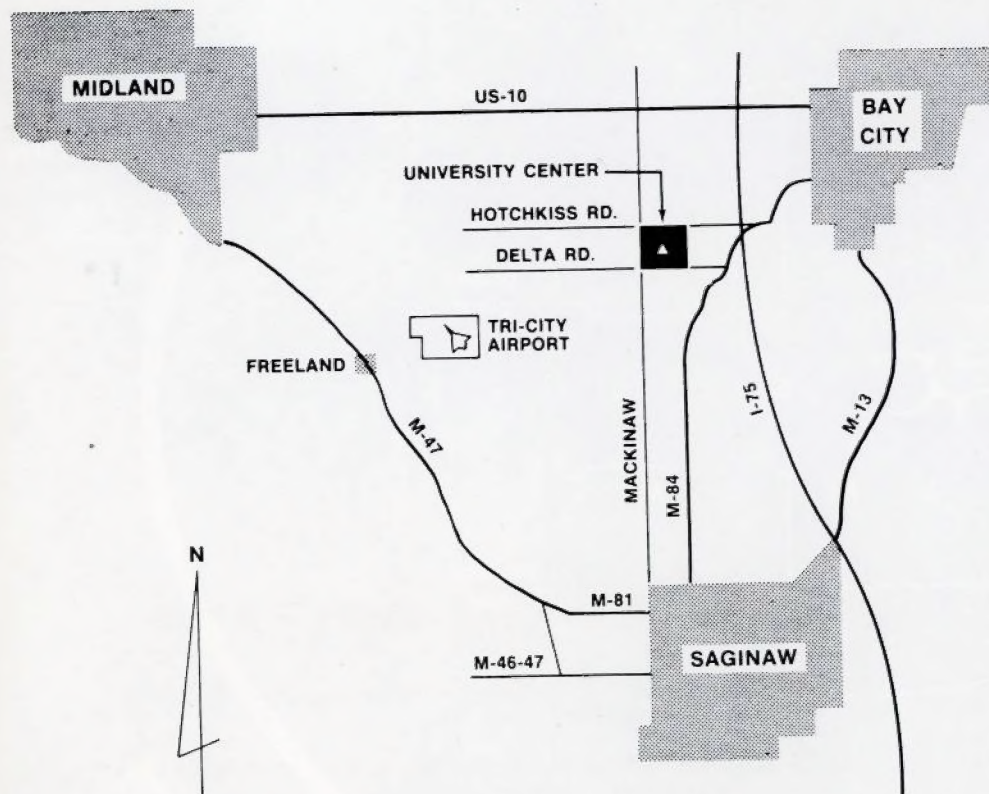
Summer Session (7½ weeks)

June 21		Fri.	Registration*
June 24	7:00 a.m.	Mon.	Classes Begin
July 4	7:00 a.m.	Thurs.	Independence Day (College Closed)
July 5	7:00 a.m.	Fri.	Classes Resume
Aug 14	11:00 p.m.	Wed.	Classes End

FALL SEMESTER

Aug. 26-28		Mon.-Wed.	Registration*
Sept. 3	7:00 a.m.	Tues.	Classes Begin
Nov. 28	7:00 a.m.	Thurs.	Thanksgiving Recess Begins
Dec. 2	7:00 a.m.	Mon.	Classes Resume
Dec. 11	11:00 p.m.	Wed.	Classes End
Dec. 12-16		Thurs.-Mon.	Final Exams





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AIMS AND OBJECTIVES

Delta College is a community college with comprehensive aims and objectives determined by the residents of Michigan, the citizens of the Delta College District, the faculty, staff, and Board of Trustees. The College is dedicated to the immediate educational needs of the Delta community and also to the present and future educational needs of all its constituents above high school age regardless of age or previous academic achievement. Delta College is further committed to continue and expand its participation in the social, cultural, and economic development of the Delta Community.

More specifically, the mission of Delta College is to provide the following educational services:

- Career programs of two basic types; those designed to provide lower division and preprofessional programs which prepare students for entry into the baccalaureate institutions of their choice,

and those designed to prepare students for employment immediately upon completion.

- Opportunity for continuing education designed to provide career and personal enrichment.
- Guidance, counseling and advisement services to students in the areas of educational, social, personal, and career development.
- Cultural programs and services designed to enrich the life of the community.
- Delta College faculty and staff services to the tri-county area for consultation, coordination, assistance, and participation in the social, economic, cultural, and educational enhancement of the Delta Community.



HISTORY AND COMMUNITY

History. Delta College is a public, tax-supported community college serving the three counties of Bay, Midland, and Saginaw. The community served by Delta College has directly influenced its character and philosophy. Citizens of both urban and rural backgrounds have worked through the years to develop support for an institution dedicated to serving the needs of the tri-county area.

Although Delta College is a relatively new and independent institution, it has continued without interruption the educational opportunities previously provided by Bay City Junior College. The Bay City Board of Education voted in July, 1922, to establish the Bay City Junior College. As the demand for education beyond high school increased in the tri-county area, the percentage of students attending the College from outside the K-12 Bay City Public School District steadily increased to the point that in the early 1950's approximately fifty percent of the total enrollment was non-resident, with about forty percent of the enrollment from Saginaw.

In 1955 a committee was organized from the three counties that are presently incorporated in the Delta College District to study the needs of higher education in the Saginaw Valley area. After more than a year of study, this committee, known as the Committee of 300, published on October 3, 1956, a proposal to establish a college in the tri-county area. The report of this committee, the *Final Report of the Tri-County College Study*, formed the basis for the development of a program to establish and finance a new college.

The Committee of 300 recognized that the tri-county area had need for a college that would offer two-year programs, cultural programs, continuing and adult education, and counseling services to people of the area.

In 1957, legislation was submitted to the State of Michigan Legislature, and in the same year, the voters of Bay, Saginaw, and Midland Counties formed a community college district under Act 182 of the Public Acts of 1957 for the purpose of financing, building, and operating a new institution of higher learning.

At the time the College was established the voters authorized a levy of 1.5 mills to construct and operate a college. In August, 1958, bonds totaling eight million dollars were sold to provide the necessary capital funds. Construction began in 1958 and the original plant was completed in September, 1961. In November, 1968, a millage proposal was approved by the voters of all three counties to remove restrictions on the fixed apportionment of the 1.5 mills between operations and debt retirement.

From the creation of the Tri-County College District in 1959 to the opening of Delta College in 1961, members of the faculty and staff of Bay City Junior College assisted in planning for the new college. Many of the Bay City Junior College faculty, students and staff became part of the new college.

The report of the Committee of 300 also stressed the need for a four-year college in the Saginaw Valley. After extensive considera-

tion and discussion by local and state educators over a period of eight years, a new four-year institution, Saginaw Valley College, was established, in 1964.

With the establishment of the four-year institution, Delta College re-directed and re-defined its philosophy and objectives in order to become a comprehensive community college designed to serve the requirements of the tri-county area.

Initial accreditation was granted the College in October, 1962 by the Michigan Commission on College Accreditation. A status study to prepare for candidacy was submitted to the North Central Association of Colleges and Secondary Schools in May, 1964, as a first step toward regional accreditation. College officials were notified in July, 1966 that the College had been accepted as a candidate for accreditation based on a report of a North Central visitation team. The Self-Study Report was completed in May of 1967, and accreditation was granted in April of 1968.

Community. The Delta College site, at University Center, Michigan, a 640-acre campus complex, in Bay County, lies almost midway between the counties' major cities of Saginaw (92,000), Bay (49,000), and Midland (35,000). This triangle forms the heart of the Saginaw Valley, which is drained by the Saginaw River and its tributaries, northward to the Saginaw Bay and Lake Huron. Bay County adjoins the Bay, an important recreational area and waterway, whose ports are part of the St. Lawrence Seaway system.

The region occupies a transitional zone between the highly urbanized, industrial areas of Southeast Michigan and the resort and recreation areas to the north. However, the tri-counties currently have a higher percentage of manufacturing employment than the 37-county Urban Detroit Area as defined by the Doxiadis* report.

The tri-county area is one of the major concentrations of population within the state. The 1970 population census reports an area population of approximately 401,000. Sixty-three percent of the people are classified as urban residents, with forty-four percent within city limits.

There are many ethnic groups in the tri-county district and they are represented in Delta's student body. Blacks constitute the largest minority group, with less than one percent in Midland County, approximately two percent in Bay County, and twelve percent in Saginaw. Over 15,000 individuals with Spanish surnames comprise a second minority group and make up about three percent of the tri-county population. Other ethnic groups are mostly European and Native American.

The high percentage of urban population can largely be explained by the concentration of industry within the area. Over ninety-five percent of the employed work force are in occupations other than agriculture.

Each county has a major concentration of industry. The Dow Chemical Company and Dow Corning Corporation have large plants and

*Constantinos A. Doxiadis, "Emergence and Growth of an Urban Region; The Developing Urban Detroit Area", The Detroit Edison Company, 1966-70.

international corporate headquarters in Midland. Bay City's employment centers around Chevrolet Motors and Defoe shipyard. The latter's position on the Saginaw River enables it to build ships for countries all over the world. Saginaw, the largest industrial center, has a number of General Motors industries and has the largest foundry concentration in the country.

The Tri-County area is also well known for its agricultural products. Sugar beets, beans and potatoes are grown extensively throughout the Valley. On a national basis, Saginaw and Bay County rank number one and two in sugar production and one and five in bean growing, respectively. Beans are shipped from the area to foreign ports. The farms are operated with a high degree of mechanization.

The Tri-County region has exhibited an impressive growth rate in the last twenty years. Between 1950 and 1960, a 30 percent increase in population occurred. Although the growth rate is slowing as the total population continues to increase, the rate of growth is slower between 1960 and 1970. The growth rate for the Tri-County area was fifteen percent, half the growth rate for the 1950-1960 decade.

Accreditation and Institutional Affiliations. Delta College is accredited by and is a member of the North Central Association of Colleges and Secondary Schools. Delta College is also a member institution of the American Association of Junior Colleges, the Michigan Association of Junior Colleges and both the American and Michigan Associations of Collegiate Registrars and Admissions Officers. Additionally, Delta College is a member institution of the Michigan Academy of Arts, Sciences & Letters.

National League for Innovation. Delta College is a charter member of the National League for Innovation in the Community College. League membership includes fifteen of the most innovative community college districts in the nation. The stated aim of the League for Innovation is to encourage and evaluate innovation and experimentation designed to improve all aspects of college operation.

Membership in the League Constitutes a significant recognition of the Delta College District. As a charter member, Delta College is committed to:

- (1) a program of innovation, experimentation and improvement.
- (2) willingness to share the fruits of such innovation.
- (3) a cooperative program with other districts on the solution of common problems.
- (4) an evaluation of experimentation and the application of results of innovation in the orderly operation of the district's operation programs.

The President of Delta College serves as a member of the Board of Directors of the League for Innovation. Delta College has assigned

itself the task of developing instructional innovations to broaden the institution's educational impact.

A sampling follows:

- Auto-Tutorial Nursing (multi-media)
- Team Teaching Geography
- Intensified Learning
- Open Circuit Television Instruction
- Computerized Evaluation and Analysis
- Off-Campus Educational Services
- Interdisciplinary Travel Seminars
- Integrated Basic Science for Allied Health Students
- Institutional Research
- Developmental Reading Program
- Expansion of Independent Study Programs
- Para-Professional Student Services
- Communication Learning Center

Master Campus Plan. The Delta College Long Range Development Plan was first approved in 1969 as a working document providing planning assistance to the Board of Trustees, Administration and the Michigan Department of Education. The Plan provides for a campus of the future designed to serve approximately 15,000 students by the mid-eighties. From institutional objectives, immediate and long-range needs are identified and translated into physical development. In addition to site development, facility requirements include: an Allied Health Center; a College Center and expanded Learning Resources Center; Vocational-Technical Center; expanded Physical Education facilities and a Communication Arts Center. The Fine Arts & Classroom Center opened its doors to students in September of 1972.

Institutional Affiliations. Delta College's accreditation provides academic affiliation with state and outstate colleges and universities, thereby insuring Delta students easy and rapid transferability. Delta College maintains liaison with transfer institutions by preparing, with their assistance, curricula guides indicating specific academic requirements. Moreover, with their help, Delta College follows through on students' progress once they have transferred.

Statewide College and University Articulation Agreement

Delta College has become a member of the Statewide Articulation Agreement between community colleges and senior private or public colleges and universities of Michigan. The purpose of this Agreement is to ensure that a student who completes an Associate of Arts or Science Degree at a community college will have satisfied the general education requirements of the first two years of study for all senior college agreement members.

Delta College Credit Programs. Programs of study in Delta College day and evening course work are designed to serve students above high school age with a variety of interests and objectives.

The student who aims to complete liberal arts studies supplemented by appropriate specialized subject matter courses which will prepare him for major concentrations and professional objectives at the senior college of his choice should plan to follow the curriculum outlined for that institution as he earns an associate degree at Delta College.

The student who aims to prepare himself directly for employment should enroll in a vocational-technical-associate degree curriculum or a certificate curriculum.

The student who wishes to enroll in courses to satisfy personal interests or to strengthen occupational competencies may do so without enrolling in a particular curriculum.

The student who is deficient in preparation for the program of his choice may enroll in courses designed to provide that preparation.

Admission procedures are designed to furnish the student and Delta counselors with information necessary to plan the student's initial program.

The Programs of Study section of this catalog contains general information on transfer programs in addition to specific requirements of the major colleges and universities in Michigan. Vocational-technical-curricula are outlined in the Course Description section.

Continuing Education. Questions concerning semester offerings can be directed either to Student Services or to the Assistant Dean of Instruction. Delta not only offers its district service through its Continuing Education course work, it also accepts service from the community by hiring professional people from the area to teach on a part-time basis. Through its thorough consideration of these people's training, professional activities, and work-related experience, Delta insures that a Continuing Education course is commensurate with day courses in academic objectives set forth, instruction given and totality of program offered.

LEARNING RESOURCES CENTER

As a part of the Learning Resources Center, the library is an integral segment of the total learning environment. The present collection of books numbers over 70,000 volumes, with back files of periodicals. In addition to extensive holdings in books, journals, magazines, newspapers, pamphlets, microfilm, and records, there is a film library of over 600 films and a collection of cassette tapes available for viewing and listening. Equipment necessary for use of these resources, such as tape recorders, record players, and projectors, is also available to students and faculty.

The library meets the standards of the Association of College and Research Libraries, a section of the American Library Association. The library is also a selective repository for United States Government documents and a number of United States Government periodicals.

Every effort is made to procure needed books and periodicals within the least possible time if available in the immediate source area.

In an attempt to offer students maximum use of the Learning Resources Center, the facility is open Monday through Friday from 7:30 a.m. to 10:00 p.m., Saturday from 8:00 a.m. to 2:00 p.m., and Sunday from 5:00 p.m. to 9:00 p.m. A librarian and student assistants are available during these hours to offer help and service.

In addition to the services one would normally expect to find in the Center, many optional services are available, such as: (1) Library tours, (2) services of research, (3) the loan of a textbook for an hour, (4) assistance in preparation of classroom presentations, (5) use of tape players in private rooms, (6) assistance with bibliographies, (7) prepare visuals for presentations, (8) offer the loan of tutorial materials in many subject areas through use of tapes, slides, and film, and (9) art and photographic services for classroom, administrative, and public relations requirements.

The Audio-visual Division of the Learning Resources Center provides the most up-to-date equipment and materials for use in the academic and service programs of the College. Most of this equipment is available to students as well as faculty. Audio-visual laboratories for individual instruction and study are available for student use.



ADMISSION AND FINANCIAL INFORMATION

ADMISSION SERVICES

The College employs admission counselors to facilitate admission. The services of such counselors may be sought regarding questions involving procedures, financial information, curriculum advisement, pre-registration or registration.

Admission to Delta College. All high school graduates whose legal residence is in-district (Saginaw, Bay or Midland County) are eligible to apply for admission to Delta College. Non-district applicants are also eligible to apply. Acceptance is based upon previous academic work, a record of good citizenship, and an expressed sincere desire for additional education. Retention in the College is based upon an acceptable level of academic growth and a continued record of good citizenship. Because of diverse curricular offerings, Delta College is able to serve students of varying backgrounds. It is essential, however, that the student be well prepared for the curriculum he wishes to follow. To this end, the results of placement tests (if necessary), the high school records, and requirements of the curriculum are carefully considered by the student and his Delta counselor. An admissions classification system, on the basis of the student's educational background and potential abilities, is used for proper placement of the student in classes. Students will be classified for admission purposes in one of the following categories: (1) regular admission, (2) provisional admission, (3) special admission, (4) guest admission, (5) transfer admission.

(1) Regular Admission. The applicant must submit a transcript of credits from an accredited high school, or its equivalent, and demonstrate his potential to pursue college level study as determined by high school achievement.

(2) Provisional Admission. Applicants whose educational background needs strengthening in certain areas are normally admitted on a provisional basis and may be limited to twelve credits. Students admitted provisionally may be required to supplement their background and achievement before being classified as regular students. Provisional students shall become regular students after demonstrating ability to do college level work.

An applicant submitting acceptable high school equivalency scores on the General Educational Development Test will be considered for provisional admission after evaluation of his previous high school record and his achievement on the G.E.D. Tests.

Delta College is a testing center for the G.E.D. Tests. Arrangements to take these tests may be made at the Student Services Office. It is recommended that students complete their high school certificates where opportunity exists to do so.

(3) Special Admission. Special students include early entrance high school students, students with incomplete admission materials, and degree holding students who wish to be admitted to specific courses. (a) Early Entrance for High School Students. High School students admitted for early entrance may be admitted to specific courses with the permission of their high school principal and when their records of high achievement and potential satisfy the prerequisites for the specific course selected.

(b) Degree Holding Students. Applicants holding college degrees may be admitted for particular courses if they satisfy the prerequisite of these courses.

(c) Incomplete Admission. Special students may be admitted prior to the completion of the admissions requirements upon approval of the Director of Admissions. Adult students who have not completed high school or equivalency may be enrolled. Such students will be

required to complete admission requirements by the end of the semester to determine their status for the next semester.

(4) Guest Admission. Students enrolled in other institutions who wish to attend Delta College as guests may submit an approved Michigan Uniform Undergraduate Guest Application and pay all matriculation and advance deposit fees required by Delta College. Guest student applications may be secured either from the Delta Admissions Office or from the registrar of the institution at which the student is enrolled.

(5) Transfer Admission. Transfer students are admitted to Delta College on an individual basis. All procedures applicable to the admission of new students will be followed. Additional procedures require the submission of all academic records and a Personal Evaluation Form from each institution attended. After admission, all requirements of Delta College must be met. Transfer students with academic achievement of less than "C", if admitted, will be admitted on probation. Transfer students should submit the records of their academic achievement as early as possible so that the records can be evaluated prior to counseling and preregistration course selection.

Admission of International Students. International student applicants will generally follow the admission procedures for regular students. Delta College requires that international students be proficient in the English language before entering course work. An additional test may be required to establish the fact of proficiency before admission. International students are admitted on an individual basis and should contact the Director of Admissions concerning the specific procedure which they should follow. Upon acceptance to college, a form I-20 will be issued to facilitate receipt of a student visa.

It is the student's responsibility to arrange for a student visa through the United States Immigration and Naturalization Service. Interna-

tional students should contact the nearest United States Embassy for information and procedures regarding the procurement of a student visa. Each student will be required to purchase student insurance on registration day unless adequately covered by a health protection plan and the student must assume all financial obligations incurred while attending Delta College, including travel to and from his homeland. Delta College assumes no financial responsibility for any student and no special funds are set aside for international students. Admission to Delta College is open to all students who meet admission requirements regardless of race, creed, or color.

Procedures of Application to Delta College. Application materials may be secured at local high schools, or from the Office of Admissions.

Former Delta Students who wish to re-enroll in the college need to request readmission prior to enrolling.

Re-Admission may be accomplished by telephone by calling the Admission Office or by securing and completing a re-admission application. Re-admission applications may be secured from the Admissions Office and will be mailed upon request.

A. Procedures of Application

1. Complete application
2. Request the high school to submit a transcript of credits and a personal evaluation form.
3. Request a transcript of credits for all post-high school education from the registrar of each institution previously attended.
4. Submit the \$10.00 matriculation fee.

In order for an application to be processed, it should be accompanied by a \$10.00 matriculation fee. The matriculation fee is a one time only fee and will not be refunded unless a prospective student is refused admission by Delta College.

B. Procedures for Re-Admission.

1. Complete re-admission application.
2. If applicable, request a transcript of credits for all post-high school education from each institution previously attended.

Admission Notification. Notification of admission, re-admission, or denial may be expected within two weeks after receipt of application by the college.

TUITION AND FEE INFORMATION

The following tuition and fee schedule applies to both day and evening students, and is subject to change without notice.

	In District	Out District	Out State
Tuition — per credit hour	\$12.00	\$24.00	\$36.00
Student Activity Fee* — per credit hour	.50	.50	.50
Late Registration	5.00	5.00	5.00
Transcripts (first)		No Charge	
(additional copies)	1.00	1.00	1.00

*Student Activity Fee is assessed each semester, to a maximum of \$7.00 per semester.

The full tuition for each student is due at registration time, there is no system of deferred payment. Student assistance and loans are available through the Financial Aids Office, but applications must be made well in advance of registration.

ADVANCE TUITION DEPOSIT

An advance tuition deposit of \$20.00 is required and should be paid

during the pre-registration period. The \$20.00 advance will be applied against the total tuition due at the normal registration period. The advance tuition deposit may be refunded if the prospective student cancels his application and requests a refund in writing, at least one day prior to the first day of scheduled registration for which the deposit was made.

REFUNDS — TUITION AND FEES

BEFORE CLASSES BEGIN* — A 100% refund of tuition and fees will be made.

AFTER CLASSES HAVE BEGUN, tuition and fees will be refunded only for courses that have been cancelled by the College. During the first five days of each 15-week semester or during the first three days of each 7½-week semester, students are permitted to offset equal credits through the drop-add procedure. Dropped credits in excess of added credits will not be refunded. For added credits in excess of dropped credits, additional tuition must be paid.

Appeals for waiver of this policy will be considered for reasons beyond the control of the student. Such appeals must be made in writing to the Controller's Office supported by appropriate documentation.

*Defined as 4:00 P.M. of the last working day before the date listed for the beginning of classes in the college catalogue or supplementary schedule.

RESIDENCE QUALIFICATIONS

A person's residency classification is established when admitted to Delta College, and can only be changed as detailed under item III.

I. RESIDENCY CLASSIFICATIONS

A person may be admitted to the College in one of the following classifications:

1. In-District — Legal resident of Bay, Midland or Saginaw Counties.
2. Out-of-District — Legal resident of Michigan but not of the above three counties.
3. Out-of-State — All other persons who are not classified under 1 or 2.

II. CLASSIFICATION GUIDELINES

A person will be considered in-district if he meets one or more of the following conditions:

1. The person lives with his parents or legal guardian, provided that the parent or legal guardian resides within the counties of Bay, Midland or Saginaw (Delta College District.)
2. The person is recognized as self supporting (receives no financial support from parent or legal guardian and is not claimed as a dependent for federal income tax purposes by parent or legal guardian.) He must have resided within the Delta College District for at least six months immediately prior to the first day of the semester in which he plans to enroll.
3. The person is married and resides within the Delta College District. The married couple both must reside in the College District.
4. The person is an employee of a business or industrial firm within the Delta College District, and the employer, by written

agreement, agrees to pay directly to the College all tuition and/or fees of the sponsored student for employer-approved classes.

5. The person is enrolled under the provision of Act 245, Public Acts of 1935, as amended by Act 371, Public Act of 1965 (Students receiving benefits under the Michigan Veteran's Trust Fund.)
6. An Alien who has filed Declaration of Intention to become a citizen of the United States and who otherwise meets the residence requirements above shall be considered eligible for in-district status.

All persons that cannot be classified under one or more of the above conditions will be classified either out-of-district or out-of-state.

III. CHANGE OF RESIDENCY STATUS

Change of residency status may take place by petitioning the Registrar of the College (at least one month prior to the next registration) under one or more of the following circumstances:

1. The enrolled student has established residence within the Delta College District for at least one year prior to the date of petitioning for a change in residency status.
2. The enrolled student is recognized as self supporting (receives no financial support from parent or legal guardian and is not claimed as a dependent for federal income tax purposes by parent or guardian), and has established residence within the Delta College District for at least one year immediately prior to the date of petitioning for a change in residency status.

3. The enrolled student is married and has established residence within the Delta College District for at least one year immediately prior to the date of petitioning for a change in residency status. The married couple both must reside in the Delta College District.

IV. PROOF OF RESIDENCE

All students are subject to a check of resident status at registration. A student may be asked by an assessor for proof of his residence before completing the registration process.

The following examples are types of documents which may be considered in determining proof of residency.

1. A valid driver's license.
2. A county tax receipt.
3. A voter registration card.
4. Rent receipts
5. Public utility receipts.

Any student who furnishes false information may be subject to disciplinary action.

V. TUITION ADJUSTMENTS

Any adjustments made in tuition due to a change in residency status *shall not* be retroactive.

VI. ATHLETIC SCHOLARSHIP RECIPIENTS AND INTERNATIONAL STUDENTS

Students attending Delta College on an athletic scholarship, or international students in the United States on a student visa, should not ordinarily expect to have their residency status changed while attending Delta College.

VIII. RESIDENCY REVIEW COMMITTEE

A Residency Review Committee consisting of the Associate Dean of Students, Business Manager, Controller and two faculty members appointed by the President of the Senate will hear appeals of residency classification as established by the College. Arrangement for a hearing will be made by the Registrar's Office.



ACADEMIC INFORMATION AND REGULATIONS

The Three Semester Plan. The three-semester plan was adopted by the Delta College Board of Trustees as a means of developing year-round operation of the College. The plan makes possible fuller utilization of facilities, gives students more flexibility in long-range course planning, and enables students to complete their academic programs in a shorter period of time.

The Fall, Winter and Spring semesters are each composed of fifteen weeks, and each covers a full semester's work. The Spring semester beginning in April is a split-semester divided into two separate parts, each seven and one-half weeks in length as well as running for fifteen weeks. This multi-semester meets the needs and desires of a great number of students.

Freshman courses for high school graduates who wish to begin college prior to enrollment in the Fall semester are offered in the second half of the Spring semester. Selected courses for various curricula will be offered as justified by demand.

The two-year academic program offered by Delta College can be completed in one and one-third calendar years. Specifically, a freshman entering in September of one year can complete four semesters by the end of December in the next calendar year; by entering in January he can finish two academic years by April of the following year; and by entering in April he can finish two academic years by August of the following year. However, students are not required to follow so concentrated a program, and course offerings are arranged to meet varying semester attendance patterns.

Class Attendance

1. Attendance is expected at all classes. There is no system of cuts.

2. Courtesy demands that students explain the reasons for their absences to their instructors.

3. It is the responsibility of the student to make definite arrangements for all work before going on field trips or other college sponsored events. If proper credentials for such activities are presented and arrangements made for the work before the event, then the absence should not be reported, but should be recorded in the instructor's records as explained.

4. Except in cases involving field trips or school activities which involve group absences no instructor will require statements from students concerning absences.

Grades and Grade Points. The following grading system will be used in college credit courses:

- A — Excellent
- B — Good
- C — Fair
- D — Poor
- E — Failed
- I — Incomplete
- W — Withdrawn
- X — Audit

The grade point system will be as follows: For each hour of credit of

- A — 4 grade points
- B — 3 grade points
- C — 2 grade points
- D — 1 grade point
- E — no grade points

In calculation of the overall grade point average, the number of E hours must be included, although no grade points are allowed.

An "I" (incomplete) grade is granted by special arrangement with the student's instructor. A final grade will be assigned by the instructor at the expiration date of the incomplete deadline.

Grade Reports. A grade report is sent to the student at mid-semester and at the completion of the semester. Grade reports are not mailed to students who have delinquent accounts at the College.

Repeat Courses. The highest grade (A,B,C,D, or E) received by a student for any given course shall be the grade used in his cumulative grade point average of all college work taken by the student. All other grades shall remain in his transcript and will be designated by the Registrar's Office so people will know they are not being counted.

Audit: A student may enroll in credit courses as an auditor with audit credit earned for the course. A mark of "X" will be recorded on his permanent record if general requirements of auditing are fulfilled. These are:

1. The student must have a student number (Be matriculated.)

2. Fees for the course are the same as credit classification.
3. Course objectives must be fulfilled, other than quizzes or examinations. These may be taken with the approval of the instructor.
4. Once a course is started on an audit basis a student may, with the approval of the instructor, change to credit within eight weeks of the beginning of the semester. Procedures should be carried out through the Registrar's Office.

Academic Standing. Any student deficient more than five honor points but less than sixteen honor points will be placed on probation. Incoming transfer students who are on probation must maintain a 2.0 average or they will be subject to dismissal review. In no instance will a student be awarded an associate degree with less than a 2.0 (C) cumulative grade point average in a Delta College Associate Degree curriculum.

Any student who is deficient more than fifteen honor points will automatically have his academic record reviewed by the Committee on Academic Standing. The Committee will decide whether the student is permitted to enroll the following semester.

Right of Petition for Re-Admission. A student who is dismissed for academic deficiency may immediately submit a written petition for reconsideration to the Committee on Academic Standing if he feels that his failure to achieve satisfactory academic performance was caused by unusual personal circumstances. A student who has been dismissed must remain out of school for at least two full semesters after disqualification unless re-admitted by the Committee on Academic Standing.

Classification of Students. Students who have earned fewer than 24 semester hours are classified as Freshmen. Those who have earned 24 or more semester hours are classified as Sophomores. Students enrolled for 12 or more semester hours of course work (including Physical Education) will be classified as full-time students. Students enrolled for fewer than 12 semester hours will be classified as part-time students.

Changing Major (curriculum). A student considering a change of major should discuss such action with a counselor. If a change is warranted, an official change form is completed at Student Services and the change is recorded on the student's records and transcript.

Change in Program of Studies After Registration. Students are expected to complete the courses in which they register. If a change is necessary, students must file a drop or add form at the Registrar's Office. The date this form is completed at the Registrar's Office is the official drop/add date for the course.

Added Courses. In general, no course may be added after the first week of the regular semester, or after the third day of a split third semester. (See Registrar's Office for procedure.)

Dropped Courses. For courses officially dropped in the first week of a regular semester or within the first three days of a split third semester, no grade will be reported or recorded. If the course is dropped between the second week and the tenth week a student will receive a W grade. After the 10th week through the 15th week the grade will be an E, or W grade (if warranted) at the discretion of the instructor and providing proper withdrawal procedures are completed.

Withdrawal from College. To officially withdraw from college, the student must have a withdrawal form completed at the Registrar's Office and this will drop the student from all classes.

Final Examinations. Final examinations are required in all courses except physical education. Final examinations in physical education courses will be given during the last week of the semester prior to the examination days in academic subjects. No student will be excused from taking a final examination. A schedule of final examinations is announced in the class schedule catalogs at the beginning of each semester and later in the semester.

Academic Record. Transcripts of student records maintained by the Registrar will be sent, upon request, to any college, university or prospective employer designated by the student. No charge is made for the first transcript; \$1 for each subsequent transcript. Transcripts will not be furnished or forwarded for students who have delinquent accounts at the college.

Recommendation for Transfer. If in addition to a transcript, a student needs a recommendation to the receiving institution, he should present his application to a counselor in the Student Services Office.

The recommendation from Delta College will be based on the total information concerning the individual student and not on academic achievement alone. Transfer rules vary with each institution, and for specific information on the requirements for transfer, the student should refer to the Programs of Study section in this bulletin, to the catalog of the college or university which he expects to enter, to his adviser, or the Student Services Office.

Guest Credit. To receive guest credit for course(s) taken at another college a student should complete a guest application. This application should have the course(s) listed that are to receive guest credit. Only courses having equivalency credit for Delta College courses will be granted credit. Upon completion of such courses the student should request a transcript of course credits be sent to the Delta College Registrar.

Advanced Credit by Examination. Delta College permits students who have gained proficiency in certain areas of knowledge through previous training, experience, or individual study to secure credit by achieving satisfactory scores on examinations in lieu of class work.

There are two major categories to be considered for credit by examination. These are: credits granted for **external examinations** (Advanced Placement and/or College Level Examination Program) where previous evaluation has been made by college personnel and **internal examinations** where established by disciplines, that require college personnel services to develop and evaluate them.

Students may secure further information about either of these types of examinations from the Delta College Registrar or Director of Admissions.

Delta College reserves the right to modify curricula, policy, tuition, and class offerings at any time.

ASSOCIATE DEGREES OR CERTIFICATES

One of the following will be awarded to a student who completes the requirements:

Associate in Arts Degree
Associate in Science Degree
Associate in Applied Science Degree
Associate in Business Studies Degree
One or Two Year Certificates in Occupational Programs.

Graduation Requirements. The Associate Degree requirements listed below are effective with the class entering Delta College in the Fall of 1965 and thereafter until such time as the Board of Trustees and the faculty change the requirements. Students who enter Delta College prior to Fall of 1965 will be permitted to graduate under degree titles in effect prior to that time. Associate Degrees are granted only upon recommendation of the faculty and the Board of Trustees.

REQUIREMENTS FOR THE ASSOCIATE DEGREE

General Requirements

Candidates for the Associate Degree must meet the following requirements:

1. Earn a minimum of 24 semester hours of credit at Delta College. The student must be enrolled at Delta while earning the final credits to complete this requirement.
2. Earn a minimum of 60 semester hours, exclusive of Physical Education.
3. Earn a 2.0 (C) cumulative grade point average in a specific career curricula or a transfer curricula.
4. Earn a minimum of three semester hours in Political Science as required in Act 106, Public Acts of 1954, State of Michigan.
5. Earn two semester hours in Physical Education courses (unless officially exempted).
6. File an application for an Associate Degree during registration for the final semester.

Exemptions: (Physical Education)

1. A veteran — defined as having at least one year of continuous active duty.
2. A student who is physically unable to participate (while at Delta College) as certified by a licensed physician.
3. Any other exemption approved by the Division Chairman.

For the Associate in Arts Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or the equivalent.
3. Group requirements in all three groups must be fulfilled.
 - I Humanities8 credit hours
 - II Social Science8 credit hours
 - III Science8 credit hoursThe requirements in all three groups must be fulfilled.

For the Associate in Science Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or equivalent.
3. Group Requirements
 - I Humanities8 credit hours
 - II Social Science8 credit hours
 - III Science20-24 credit hours

For the Associate in Applied Science Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or the equivalent.
3. Satisfactory completion of one of the technical curricula or the Nursing Curriculum, Law Enforcement, Radiologic Technology, Dental Assistant.

For the Associate in Business Studies Degree:

1. The general requirements listed above.
2. Satisfactory completion of 6 semester hours in English Composition or in Business Communications.
3. Satisfactory completion of a business curriculum.

Certificate Requirements: Satisfactory completion of a certificate curriculum. Students should file an application for a Certificate during registration for the final semester of course work.

Second Associate Degree

A student may earn a second Associate Degree or post-Baccalaureate Associate Degree at Delta College. No less than 24 credit hours of

the second Associate Degree requirements shall be earned from Delta College. Previous credits will be evaluated for transfer to this degree as they are applicable and this is determined by the appropriate division of Delta College. There is no carry-over of grade point averages from previous credited course work to the second Associate Degree.

Definition of Group Requirements

Group I Humanities:

~~American Literature~~, English Literature, Art Appreciation, Drama, Music Appreciation, Languages (French, Spanish, German, Russian), Philosophy, Speech, History 111 and History 112†

Group II Social Science:

Economics, Geography, History, Political Science, Psychology, Sociology, History 111 and History 112†

Group III Science:

Biology, Chemistry, and Geology, Mathematics, Physics, Physiology*.

Graduation Honors. A student is graduated with highest honors is he has completed his curriculum with a cumulative grade point average of 3.8 or higher

He is graduated with high honors is he has completed his curriculum with a 3.50-3.79 cumulative grade point average.

Honors graduates are those with a 3.2-3.49 cumulative grade point average. Transfer students are eligible for graduation honors if they have completed the last 24 credit hours at Delta College.

Honors Each semester a Dean's List is issued listing the names of all students who have a current grade point average of 3.5 or higher. To be eligible, a student must be enrolled in 12 credit hours in a fall or winter semester or 6 credit hours in a spring or summer semester.

Student Responsibility for Catalog Information. Students are held individually responsible for the information contained in the catalog. Failure to read and comply with college regulations will not exempt a student from such personal responsibility.

*One lab science course is required and the second class may be either a lab science or a mathematics course.

†History 111 and History 112 may be included in either Group I or Group II but may not be counted in both groups.

STUDENT SERVICES AND STUDENT ACTIVITIES

STUDENT SERVICES

The office of Dean of Students provides services which contribute to the social, cultural, and physical growth of the student, as well as aiding him with his academic program. These services include counseling, pre-enrollment advising, registration, housing, health services, orientation, testing, college and high school orientation, academic advising, educational and career information, financial aids, placement, and college activities.

Education, Career, and Personal Counseling. Professionally trained counselors are available in the Student Services Office to give assistance in educational, career, and financial planning as well as problems of a personal nature. The first contact with a counselor is previous to a student's first enrollment. At that time, his career and educational plans are discussed briefly and his choice of courses made. After enrollment, his counselor is available as often as necessary to help him in learning about his aptitudes and interests, to further develop his vocational plans, to aid in increasing self-understanding, and to assist in personal problems. This is usually done by individual interview, but sometimes group sessions are also helpful in many of these areas.

Resource materials, such as college catalogs and vocational literature, are available in the counseling office and in the College library.

Testing. To assist the student toward a better understanding of himself and to aid the counselor in diagnosing and understanding the student's problems more adequately, many kinds of tests and inventories are available. These tests provide for assessment of interests, abilities, achievement, aptitudes, personality traits, and personal-social adjustment.

At this time, Delta does not require testing for admission or placement, but is a testing center for the American College Testing Program (ACT).

Delta is also a testing center for the General Educational Development Test (GED) and the College Level Examination Program (CLEP). The GED is designed for persons who have not received a high school diploma and who seek certain programs of study, or employment, particularly civil service positions. The CLEP tests afford students and prospective students the opportunity to demonstrate their academic proficiency at the freshman - sophomore college level in various areas and in specific subjects.

Orientation Services. For Freshmen, an orientation program is conducted during the summer and early in each semester as a means of introducing new students to college life and academic study. Through this program students are acquainted with the facilities of the college and introduced to academic and non-academic activities. College standards and policies are discussed in an orientation assembly and students are encouraged to participate in all phases of college activities.

As a means of orientation to academic study beyond Delta College, a liaison with the four-year institutions is maintained in order to provide students with the necessary information to prepare for transfer to a baccalaureate degree program. In the sophomore year, interviews with senior college representatives for assistance in application for transfer are scheduled.

Registration. Registration procedures for Fall, Winter, and Spring-Summer Semesters are described in the Class Schedule each semester. Information can also be secured from Student Services or the Registrar's Office.

Health Services. Delta College maintains a health center which is equipped to provide first aid treatment and relate to minor health problems. A registered nurse is on duty from 8:00 a.m. to 10:00 p.m. on school days, from 8:00 to 12:00 a.m. on Saturdays. Health and accident insurance is available at a low rate. All international and out-of-state students are required to have health insurance.

Student Housing. The college operates two residence halls for full-time students; North Hall for men and South Hall for women. Each Hall houses 80 students in 40 double rooms. Charges include room and board, and meals are taken in the College Commons.

In addition to Delta on-campus housing, Andersen Hall operated by Saginaw General Hospital in Saginaw is available to Delta female students. Nursing students have preference in placement at Andersen Hall. Room cost at Andersen does not include meals. Students living in Andersen Hall may purchase their meals on a cash basis in the hospital and college cafeterias.

Applications for residency in the campus dormitories or Andersen Hall may be obtained from the Housing Office. Students requiring assistance in finding private housing should also contact the Housing Office.

FINANCIAL AIDS

Financial Aids. Financial assistance awarded by the College is based on academic ability, financial needs, guidelines set up by organizations and directions given by the government when applicable. In the determination of financial aid it is expected that the student, together with his parents, will contribute as much as possible to the cost of attending college.

Any student is eligible to apply for financial aid who is a citizen or national of the United States or has such immigration status and personal plans to justify the conclusion that he intends to become a permanent resident of the United States. In accordance with Title VI of the Civil Rights Act of 1964 "No person shall, on the grounds of race, color or national origin be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal assistance.

To be eligible for financial assistance, the student should apply for admission, submit a request for Financial Assistance and provide the necessary evidence of financial need. The evidence of financial need is determined by submission of a Parents Confidential Statement to The College Scholarship Service. These forms are available through high school counselors as well as the Office of Financial Aid.

Five basic types of financial assistance are available to Delta College students. These are loans, college work study, grants, scholarships and on-campus employment.

Loan Funds. Delta College can assist students with loans from several different sources. Application for these loans must be made well in advance of registration.

Funds are available under the National Direct Student Loan Fund. This fund has features which make it exceptionally valuable to students who qualify. The interest rate is low and payments in most cases do not begin until a student's college work is completed. Part or all of the loan may be cancelled for teaching in low-income service schools, Head Start programs, handicapped classes or for service in the U.S. Armed Forces.

A student Nursing loan is available to full-time students in the nursing curriculum who exhibit financial need. This loan, too, has a forgiveness feature. Similarly, The Law Enforcement Loan is awarded to qualifying students and has a forgiveness clause.

It is possible for students to obtain personal loans for college expenses from local banks, credit unions and savings and loan

associations on limited security by applying through the Michigan Higher Education Authority.

Delta College also has a short term emergency student loan fund. This fund is supported by contributions received from many individuals and agencies within the Delta College district.

College Work Study Program. College Work Study is a program sponsored by the Federal Government to provide financial assistance to students through part-time work. Work Study also provides practical working experience to compliment the student's academic studies.

A student interested in the Work Study Program must submit an application and financial statement to the Financial Aid Office. Work Study, like the National Direct Student Loan and Educational Opportunity Grant, is awarded to the most needy student first. There are a variety of types of part-time work available in clerical, technical, service and skilled classifications, both on-campus and at certain off-campus agencies.

Work Study students are paid at variable rates depending on the type of work performed and the skills and experience necessary to perform that task.

A student can work from six (6) to fifteen (15) hours per week. The student's work schedule is determined by his class schedule and the requirements of the job.

During holidays, vacation periods, and summer, students may qualify for full-time work. A student may be employed forty (40) hours per week during these periods, dependent on the availability of funds. Contact the College Financial Aids Office for specific information on this program.

Of special interest are summer off-campus employment programs sponsored by non-profit agencies in such fields as health, recreation, social work, forestry, and community government.

Grants. Grants are available under Supplementary Educational Opportunity Grant program for those students who show exceptional financial need. They must be matched by funds from other financial aid programs administered by Delta College.

Scholarships. Nursing Scholarships are available to students who show an extreme need for financial assistance and are enrolled full time in the Nursing curriculum leading to an Associate Degree in Nursing.

Funds available to Delta College students in the form of scholarships have been provided through the generosity of interested individuals, firms and organizations. Potential recipients will be selected from among those students who have completed the application procedure for requesting financial aid, have a proven need and meet any special requirements for specific scholarships. Among these scholarships which have been made available to Delta College students are the following:

Alvin Bentley Foundation
American Association of University Women
American Business Women's Association
Bay City Lions Club
Bay City Panhellenic
Bay County Medical Society Women's Auxiliary
Business Studies Scholarship
Leonard Bergstein Memorial
Gilbert Currie Estate
Delta Women's Club
Dow Scholarships for Office & Clerical Minority Students
Dow Chemical Pre-Engineering Scholarships
Frances Goll Mills
Fred Dulmage Endowment
Mr. & Mrs. James Gerity, Jr. Broadcasting Trust Agreement
The Hellenic Women's Society of Saginaw
Junior League of Saginaw, Michigan, Inc.
Life Sciences Scholarship
M. Seth Babcock Endowment
Margaret Adams R.N. Scholarship Fund
Michigan Farm and Garden Foundation
Michigan Home Builders Association
Midland Police Officers Association
National Farm & Garden Association
Paul Robson Scholarship
Saginaw Home Builders Women's Auxiliary
St. Matthew's Episcopal Church
Midland Panhellenic
Pioneer Club Scholarship
Saginaw Insurance Agents
Saginaw Junior Reading Club
Saginaw Osteopathic Hospital Auxiliary
United Church of Christ
United Migrants for Opportunity, Inc.
U.S. Graphite Co. Scholarship
Zonta Club

Board of Trustees Full Tuition Scholarship is granted to one graduating senior from each of the public and parochial high schools in Delta College district. These awards are made on the basis of high scholastic achievement and selection is made from the nominations by high school principal. These scholarships provide full tuition for as many consecutive semesters as the student maintains a prescribed standard of scholastic achievement, to a maximum of four semesters.

On Campus Part-time Employment. The Financial Aids Office will assist all students who are seeking on campus part-time employment.

Additional information regarding application procedure or qualification for any of the above programs may be obtained by contacting the Delta College Financial Aids Office.

Veterans Benefits. Students who desire assistance in making application for veterans benefits, either for G.I. Bill benefits or benefits awarded to children of veterans, are requested to contact the Registrar's Office. All forms are available for these purposes in their office.

Social Security. Social Security claims are processed by the Registrar's Office. Students must be enrolled full-time in order to qualify for these benefits. Information is available in the Registrar's Office.

Selective Service. The Registrar's Office is responsible for notifying the various Selective Service Boards concerning the status of their students. Information on Selective Service may be obtained from the Registrar's Office.

PLACEMENT SERVICES

Full-time Employment. The Placement Office assists graduating sophomores, alumni, students completing certificate programs, and all other students seeking full-time positions. Students may register with the office, and there is no charge for this service.

While placement in suitable positions cannot be guaranteed to students and alumni, every effort will be made to give the student as much assistance as possible. During the winter semester, many industrial and business employers send representatives to the campus to interview students. Interviews are then arranged for interested students.

Part-time Employment. The Placement Office serves as a clearing house for local businesses and industries seeking part-time help. As soon as a part-time job is received by the office, it is posted on the "Job Market" bulletin board outside the office. Students can then obtain the necessary information from the board to contact the employer for an interview.

Work Related Program. Many curricula offer opportunities for students to accept jobs directly related to their field of study. Jobs of this nature may be arranged on either a half-day basis or on an alternating semester basis. Application may be made through the Placement Office. Business students interested in cooperative education should contact one of the Business Division Cooperative Education Coordinators.

OTHER FACILITIES

Book Store. A modern well-equipped book store, located on the court level adjacent to the Commons, serves students, faculty, and other interested individuals. This facility is open daily.

The Commons. Food services, lounge facilities, and meeting rooms are provided in the Commons area which is located on the court level at the north end of the building.

Bus Transportation. Bus transportation from Bay City, Saginaw and Midland, and return is provided by a private operator. This service allows the student to arrive early each day in time for class and return home at the close of classes.

Parking. Ample parking facilities adjacent to the College building are provided for students, faculty and guests. Regulations for parking are provided by the Security Office and explained in detail in the Student Handbook.

STUDENT ACTIVITIES

Philosophy. Delta College as an institution of higher education has a commitment to assist its students to develop in body, mind and spirit. Recognizing a need for a complete and fulfilling educational

program, the College has included in addition to its full academic offerings a complete co-curricular activity program. In establishing such a program the College offers students the opportunity to participate as active leaders in the college community.

Co-curricular activities is in allegiance with the educational program of the College; for student activities is a "laboratory" of "creativity". It is designed to assist young adults in developing their talents in group leadership, music, theatre and/or writing, as well as giving them a sense of total social enjoyment and responsibility.

Through the activities program, students are given a chance to better understand themselves, their fellow students, the faculty and the administration. Delta College has encouraged a variety of student organizations, professional associations and many interest groups, whereby students may be able to develop their talents and interests of their own choosing.

The Student Center was built for the specific purpose of creating an area for the student's enjoyment and relaxation. All students are welcomed and encouraged to utilize the Student Center facilities. Student Government is housed in this facility.

Student Government. The student governing body at Delta College is the Delta College Student Association which derives its responsibilities and authority from the D.C.S.A. Constitution. Its defined purpose is to bring about closer cooperation of the administration and faculty with the student body, and to further the cultural, social, and educational activities on campus.

Student Government consists of three Boards: Executive, Legislative and Program. Each has prescribed constitutional functions and responsibilities. The Executive officers (elected during the Winter semester) form the nucleus of the Executive Board with the President as chairman. The 1st and 2nd Vice Presidents are chairmen of the Legislative and Program Boards, respectively. These three positions are the only elected members of the Executive Board. The other members are appointed including: Finance officer, Public Relations officer, Executive Secretary, and two recording secretaries.

Members of the Legislative and Program Boards are elected and appointed during the 3rd week of Fall semester. Eight elected seats are available, as well as six appointed seats that insure minority representation.

Student Government may concern itself with a variety of areas involving student welfare including curriculum, course, teacher, and

administrative evaluation. Housing, food, athletics, and student activities are additional focuses of concern.

Student Interest Groups. At Delta there are a variety of activities on campus reflecting the diversity of student interest. Delta students are encouraged to form groups which have common interest or hobbies. Recognition of such clubs may be gained by securing the proper application from the Office of Student Activities. Faculty advisors are designated as sponsors upon request of the club. Such groups participate in the areas of art, music, political and international affairs, departmental or professional subject groups. Additional information about any of these organizations and others may be obtained from the Director of Student Activities or his assistant. At this time there are 20 clubs or student interest groups functioning and approved.

Student Conduct. Students are expected to set and observe a proper standard of conduct. Failure to show respect for order, morality, personal honor and academic duty demanded of a good college citizen shall be deemed sufficient cause for dismissal from the college.

STUDENT PUBLICATIONS

Delta College has three student publications: The Delta Student, a year-end publication; Dialogue, student literary magazine; and Collegiate, the student newspaper.

The Delta Student. Preparing the year-end publication is the job of a group of dedicated students. They receive no pay but seem to derive satisfaction from doing their job well. The editors have a free hand in the publication selecting cover, content, color and design. The Delta Student may best be described as a soft-cover, pictorial essay of student life at Delta.

Dialogue. Delta's literary magazine is presently published once a year. Contributions including writings, drawings and photography, come from the student body at large. An editor and his staff select the material to be used from these works.

Collegiate. This, the official bi-weekly student newspaper, is entirely student produced. It is supported by the students' activity fees as well as advertising revenue.

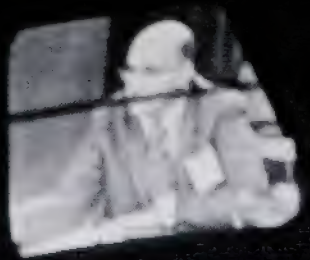
All of Delta's student publications serve as laboratories for student development and student-directed activity. They reflect the co-curricular activity and philosophy in giving students an opportunity to put into practice outside of class what they may have developed in class. Delta students are encouraged and cordially invited to take part in the production of one or all of the student publications.

OTHER ACTIVITIES

Intercollegiate Athletics. Delta College is a member of the Michigan Community College Athletic Association, and the National Junior College Athletic Association. Delta offers seven intercollegiate sports including Soccer, Cross Country, Basketball, Wrestling, Tennis and Golf. Delta is one of the few junior colleges in Michigan offering an Intercollegiate program for women. The women's program includes Field Hockey, Volleyball and Basketball.

Intramural Program. The Division of Health, Physical Education and Recreation offers a diversified program of Intramural and Women's recreational Activities for the Delta students. Students interested in the program should contact the Division of the activities offered.

Social and Cultural Events. Delta College has several outstanding musical groups including the Delta College Singers (selected from the choir), and the Wind Ensemble group. Traditionally they perform at the Christmas and Spring Concerts. There is also the student theatrical group known as the Delta Players. This year they've presented "Member of the Wedding" and "The World of Ray Bradbury," a set of three, one-act science fiction plays. Accordingly, the Delta Players in recent years have portrayed the plays "Harvey," "Who's Afraid of Virginia Woolf," "The Tempest," etc.



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BOARD OF EDUCATION

TRANSFER PROGRAMS

Group Requirements of Selected State Colleges and Universities.

A variety of curricula, or programs of study, are available to Delta College students. Generally, these curricula are two years (four semesters) in length and culminate in the awarding of the associate degree; however, a few are less than two years and some of the health careers and technician programs are five and six semesters in length.

Transfer curricula provide the first two years of study needed to fulfill requirements of senior colleges and universities awarding the baccalaureate degree. Delta College maintains up-to-date information and continuous liaison with the senior colleges in Michigan regarding the requirements for transfer. Curricula sheets for the state colleges and universities are maintained in the Student Services Office and may be obtained at any time. A file of both state and out-of-state catalogs is also available. Students are advised to use both the curricula sheets and the catalogs in determining their course schedules. Counselors also are available to advise students on transfer problems.

Programs designed for transfer to Baccalaureate Degree Granting Institutions.

ARCHITECTURE and DESIGN

- 4 Architecture and Design
- 5 Landscape Architecture

BUSINESS

- 15 Business Administration
- 22 Hotel Management

EDUCATION

- 44 Art
- 45 Business
- 46 Elementary
- 50 Industrial Arts
- 52 Music
- 51 Physical Education
- 48 Secondary
- 49 Special

ENGINEERING

- 55 General Engineering

LIBERAL ARTS

- 90 Academic (General)
- 9 Art
- 64 Library Science
- 61 Pre-Journalism
- 62 Pre-Law
- 88 Social Work

MEDICAL AND HEALTH FIELDS

- 71 Dental Hygiene
- 74 Medical Technology
- 76 Mortuary Science
- 77 Pre-Nursing
- 70 Pre-Dentistry
- 80 Occupational Therapy
- 73 Pre-Medicine
- 81 Pre-Optometry
- 82 Pre-Pharmacy
- 86 Pre-Veterinary
- 83 Physical Therapy
- 84 Public Health

NATURAL RESOURCES

- 1 Agriculture
- 40 Conservation
- 58 Forestry
- 68 Chemistry

Basic Requirements. The following is a listing of the basic requirements for most of the public senior colleges in Michigan. There may be variations from these requirements for specific curricula, and each student will be expected to obtain additional information as a guide-line in planning his program.

CENTRAL MICHIGAN UNIVERSITY

The following are group classifications used at Central Michigan University and courses at Delta College which may be used to fill these requirements. However, these requirements vary with the type of degree one receives and with the major concentration. Some degrees and majors require many more credits in specific areas than those listed.

Group I — English, Languages, Journalism 12 Sem Hrs
Philosophy, Religion, Speech.

Group II — Science 12-18 Sem Hrs
Divided among at least two departments. Biology, Geology, Mathematics, Physical Science, Physics, Chemistry, and in some curricula, Psychology.

Group III — Social Science 12 Sem Hrs
Economics, Geography, History, Sociology, Political Science.

Group V — Fine Arts
Art, Music

See CMU Catalog

Group VII — Physical Education 2 Sem Hrs

EASTERN MICHIGAN UNIVERSITY

Group requirements for a degree and the equivalent courses at Delta are:

Group I — Language and Literature 5-8 Sem Hrs
English 111, 112, Speech 112, Literature and Language.

Group II — Science 10-12 Sem Hrs
Biological Sciences, Physical Science, Geography 111, Mathematics, Psychology 211.

Group III — Social Science 9-12 Sem Hrs
History, Political Science, Philosophy, Economics, Sociology, Geography.

Group V — Fine Arts — for some curricula
Art Music

Group VII — Physical Education 4 Sem Hrs
In a few specialized curriculum, additional credits in these areas will be necessary.

FERRIS STATE COLLEGE

Group Requirements for a baccalaureate degree include the following:

Freshman English	6 Sem Hrs
Science	8 Sem Hrs
Social Science	6-12 Sem Hrs
Humanities	6 Sem Hrs

MICHIGAN STATE UNIVERSITY

All degree students must complete four foundation courses. The Michigan State University and the Delta College equivalencies are listed below:

Group I — American Thought and Language English 111, 112.	6 Sem Hrs
Group II — Natural Science Divided between the Biological Sciences and the Physical Sciences. (Geo. 111 may be used as the Physical Sci.)	8 Sem Hrs
Group III — Social Science Divided among two or more subject matter departments. Economics, Geography — except 111, Political Science, Psychology, Sociology.	8 Sem Hrs
Group IV — Humanities Divided among two or more departments. History, Literature, Music Literature, Art History, Philosophy.	8 Sem Hrs
Group V — Physical Education Some curricula demand a year of college credit in a foreign language if an equivalent amount of high school language was not taken.	2 Sem Hrs

Note: Group requirements started at Delta should be completed prior to transfer. A minimum of 55 credits required before transferring on the majority of curricula.

MICHIGAN TECHNOLOGICAL UNIVERSITY

Core Requirements for Engineering:

Mathematics	16 Sem Hrs
Chemistry	8 Sem Hrs
Physics	8 Sem Hrs
Engineering Science	3 Sem Hrs
General Studies	10 Sem Hrs
Humanities and Social Studies	15-30 Sem Hrs

Requirements vary among the engineering majors. See catalog for core requirements for other curricula.

NORTHERN MICHIGAN UNIVERSITY TRANSFER STUDENT SUBSTITUTIONS IN THE NMU STUDIES PROGRAM

The following information is designed to assist in the advisement of transfer students who wish to substitute courses taken at other schools for NMU's Liberal Studies courses. Students must have 32 semester hours in Liberal Studies courses or equivalents, (except in special curricula) distributed into divisions as shown below. Some courses in Liberal Studies Programs can also be used in student's major and minor areas. (Consult your adviser or counselor and the 1972-73 NMU Bulletin).

LIBERAL STUDIES COURSE REQUIREMENTS

DIVISION I

Language Studies—
8 semester hours

DIVISION III

Natural Science/Mathematics—
8 semester hours

DIVISION II

Humanities—
8 semester hours

DIVISION IV

Social Sciences—
8 semester hours

EQUIVALENTS

Not less than 8 semester hours **including** Freshman English I, plus additional hours in Writing/Exposition courses such as Freshman English II, Fundamentals of Speech, Advanced Composition, Rhetoric, etc.

Not less than 8 semester hours in such areas as Literature, Speech and Drama, Cultural History, Ethnic Studies, History of Civilization, Music Appreciation, Art Appreciation, Philosophy, Religion, and/or Humanities.

Not less than 8 semester hours **including at least one laboratory science course** in Biological and Physical Sciences, Psychology or Environmental Sciences, plus additional hours in any of those areas or Mathematics.

Not less than 8 semester hours in such areas as Political Science, Sociology, Economics, Geography, History, Social Problems, Study of Mass Media or Social Sciences.

NOTE: One course should meet the American Government requirement.

SAGINAW VALLEY COLLEGE

The basic requirements for a degree program at Saginaw Valley College may be met as follows:

- Group I — Communication Area 9 Sem Hrs
English 111, 112, Speech 112
- Group II — Humanities 8 Sem Hrs
Literature, Philosophy, Art History, Music Literature, Foreign Language, Theatre
- Group III — Science Area 8 Sem Hrs
Biology, Physical Science, Geography 111, Geology, Chemistry, Integrated Allied Health, Physics, (any two or a sequence of one science)
- Group IV — Social Science 8 Sem Hrs
History, Political Science, Sociology, Geography, Economics 222, Psychology, L.E. 210, 250, 271
- Group V — Physical Education NONE
- Electives — majors or minors (number depends upon curriculum).

UNIVERSITY OF MICHIGAN

Students planning to enroll in the College of Literature, Science, and the Arts at the University of Michigan should complete as many as possible of the distribution courses listed below during their first two years.

- Group I — English 6 Sem Hrs
English 111, 112
- Group II — Foreign Language 0 to 16 Sem Hrs
Fourth semester proficiency in one language.
- Group III — Social Sciences 3 courses
Work in at least two departments including two courses in one department.
Economics, Geography, History, Political Science, Psychology, Sociology.
- Group IV — Natural Science 3 courses
Work in two departments including two courses in one department and one laboratory course.
Biological, Geological Sciences, Chemistry and Physics.
- Group V — Humanities 3 courses
Two courses in one area.
Literature
Music Literature
Fine Arts
Philosophy

A minimum of 40 hours of these requirements, including English and the language, must be completed during the Freshman and Sophomore years.

Note:

1. The School of Education has a few variations in distribution requirements. The appropriate catalog should be consulted by education majors.

2. See catalog for B.G.S. requirements.
3. If a language is required for the curriculum, it must be obtained before transferring.
4. In the majority of curricula, a minimum of 55 hours must be obtained before transferring.
5. See catalog for Math and Phil. substitutions for Groups III and IV.

WESTERN MICHIGAN UNIVERSITY

The basic requirements for a degree program at Western Michigan University may be met as follows:

- Group I — Communication Area 6 Sem Hrs
English 111, 112
- Group II — Science Area 8 Sem Hrs
Must be divided between two or more departments: Biological Science and a Physical Science, including Geo. 111.
- Group III — Social Science Area 4 Sem Hrs
Must be divided between two or more departments: History, Economics, Sociology, Political Science.
- Group IV — Humanities Area 8 Sem Hrs
Must be divided between two departments or more. West Civilization, Literature, Philosophy, Art Appreciation or Music Appreciation.
- Group V — Physical Education 4 Sem Hrs
- Note: Group requirements started at Delta should be completed before transferring.

GENERAL REQUIREMENTS

General requirements for certain curricula are listed in the following paragraphs. These requirements vary for different senior colleges and departmental majors. Students should obtain curriculum sheets for the program in which they are enrolling. Each student should follow the program for the senior college to which he plans to transfer. An example of some of these curricula sheets are shown for these five:

Business Administration
Elementary Education
Secondary Education
Engineering
Liberal Arts

Curriculum sheets are available for the following transfer programs: Architecture and Design, Landscape Architecture, Hotel Management, Art, Business, Industrial Arts, Music, Physical Education, Special Education, General Engineering, General Academic, Library Science, Pre-Journalism, Pre-Law, Social Work, Dental Hygiene, Medical Technology, Mortuary Science, Pre-Nursing, Pre-Dentistry, Occupational Therapy, Pre-Medicine, Pre-Optometry, Pre-Pharmacy, Pre-Veterinary, Physical Therapy, Public Health, Agricultural, Conservation, Forestry and Chemistry.

BUSINESS ADMINISTRATION TRANSFER PROGRAMS

Business Administration students prepare for business, industrial, and community leadership. Professional goals in business may be directed toward specialized areas: accounting, retailing, finance, marketing, insurance, real estate, secretarial administration, and public administration. The two-year sequence of courses provides general background principles of business, and some of the tool subjects. A transfer student may follow various programs of specialization. The student is urged to secure the catalogue of the senior college of his choice and plan his courses carefully in conference with his adviser.

BUSINESS ADMINISTRATION

English 111, 112	6 Sem Hrs
* Accounting 211, 212	8 Sem Hrs
Economics 221, 222	8 Sem Hrs
Science	4-8 Sem Hrs
Mathematics	3-8 Sem Hrs
Social Science	4-8 Sem Hrs
Humanities	6-9 Sem Hrs
Physical Education	0-4 Sem Hrs

*Some senior institutions accept Accounting 111, 112. See Counselor.

ELEMENTARY EDUCATION

English 111,112	6 Sem Hrs
Speech 112	3 Sem Hrs
English 251	4 Sem Hrs
Language	0-16 Sem Hrs
Social Science	8-15 Sem Hrs
Science	8-16 Sem Hrs
Humanities	0-12 Sem Hrs
Art Education	3 Sem Hrs
Music	3 Sem Hrs
Mathematics 110	4 Sem Hrs
Physical Education	0-4 Sem Hrs

Certain phases of Special Education for teaching the handicapped are obtained through this curriculum.

A special kind of opportunity exists on a cooperative basis between Delta College and Michigan State University through the Educational Intern Program in Elementary Education. All four years of training, with the exception of two summers, and one Fall on the MSU campus, can be completed at Delta or in the geographic area of the student's internship training. Additional information is available at the Student Services Office.

Certain majors will necessitate taking more courses in those areas and leaving some of the above until the last two years.

SECONDARY EDUCATION

English 111, 112	6 Sem Hrs
Speech 112	3 Sem Hrs
Literature *	3-12 Sem Hrs
Foreign Language	0-16 Sem Hrs
Science	8-12 Sem Hrs

in two departments; at least one year of laboratory science is required.

Social Science	3-12 Sem Hrs
Humanities *	3-12 Sem Hrs
Physical Education	0-4 Sem Hrs

*Literature requirements usually included in Humanities group.

There are variations of this program for Business Education, Home Economics Education, Industrial Education, and some phases of teaching the handicapped.

ENGINEERING

English 111, 112	6 Sem Hrs
Chemistry	5-11 Sem Hrs
Physics 211, *212,*215	13 Sem Hrs
Mathematics 161, 162, 261, 263, 264	17 Sem Hrs
Economics 221, 222	8 Sem Hrs
**Drafting 155, 156	6 Sem Hrs
Political Science	3 Sem Hrs
Humanities	3-8 Sem Hrs
Physical Education	0-4 Sem Hrs

*Placement in the beginning course of this sequence depends upon prior courses in mathematics and scores on placement tests.

**Not required on all Curricula by all universities.

LIBERAL ARTS

For students interested in preparing for Law, Social Work, Library Science, Linguistics, and similar fields.

English 111, 112	6 Sem Hrs
Speech 112	3 Sem Hrs
Language	8-16 Sem Hrs
Literature*	5-12 Sem Hrs
Social Science	12-16 Sem Hrs
Science	12-18 Sem Hrs
Humanities*	5-12 Sem Hrs
Physical Education	0-4 Sem Hrs

*Literature requirements usually included in Humanities group.

The minimum number of credits in some groups may be greater than listed above depending upon department major.

DATA PROCESSING

Ferris State College

English 111, 112	6 cr.
Accounting 211, 212	8 cr.
Math 119 or 122	3 cr.
Data Processing	15 cr.
Economics 221, 222	8 cr.
Speech and/or Humanities	6 cr.
Psychology 211	4 cr.
Laboratory Science	4 cr.
Political Science 103	3 cr.
Electives	3 cr.
P.E.	2 cr.
	62 cr.

AGRICULTURE & NATURAL RESOURCES

Specialized fields in this area include Agricultural Economics, Agricultural Engineering, Conservation, Fisheries, Forestry, Horticulture, Parks & Recreation, Resource Development, etc.

English 111, 112	6 cr.
Biology 111, 151, 161	12 cr.
Chemistry 101, 102, or 111, 112	8-10 cr.
Physics 111, 112	8 cr.
Political Science 111	4 cr.
Humanities	8 cr.
Economics 211	4 cr.
Econ or other Soc. Sci.	4 cr.
Electives	4 cr.
P.E.	2 cr.
	62 cr.

All majors do not demand all the above sciences. Check for various major differences in the university catalogs.

CAREER PROGRAMS

Delta College offers the following Associate Degree curricula, which require four or more semesters to complete.

BUSINESS EDUCATION*

- 11 Accounting
- 14 Air Line Hostess
- 13 Air Line Hostess — Clerical

- 20 Management
- 18 Data Processing
- 25 Finance and Banking
- 35 Marketing
- 32 Medical Assistant
- 16 Real Estate
- 27 Retail Mid-Management**
- 29 Secretarial (General)
- 30 Chemical Secretarial
- 31 Legal Secretarial

HEALTH EDUCATION

- 72 Dental Assisting
- 78 Nursing (RN program)
- 79 Radiologic Technology

PUBLIC SERVICE

- 43 Broadcasting
- 23 Law Enforcement
- 87 Social Health Services Assistant
- 02 Urban Professional Assistant

TRADE — TECHNICAL EDUCATION

- 3 Architectural Technology
- 97 Automotive Service Technology
- 92 Electronic Technology
- 54 Industrial Supervision
- 94 Instrumentation Technology
- 93 Mechanical Engineering Technology
- 100 Mechanical Design Technology
- 59 Residential Construction Technology

* All curricula listed (except Air Line Hostess) under Business Education have co-operative opportunities with Business and Industry in the Saginaw Valley.

** Prior to entering this curriculum students must have the approval of the Distributive Education Coordinator.

The following certificate level curricula require from two to four semesters to complete.

- 10 Accounting
- 98 Automotive Service (Mechanics)
- 99 Automotive Service Specialist
- 6 Drafting & Design
- 56 Industrial Supervision
- 24 Machine Calculation
- 60 Residential Construction Technology
- 28 Secretarial



CAREER PROGRAMS AND COURSE DESCRIPTIONS

BUSINESS CAREER PROGRAMS

The Business Education Division is vocational in its aims and objectives. It provides the following educational opportunities:

- I. For an Associate Degree leading to a Baccalaureate Degree in
 - (a) Business Administration or Applied Science, for employment in such fields as accounting, advertising, banking, finance, hotel management, business law, marketing, personnel, real estate, secretarial, and transportation.
 - (b) Business Education in preparation for teaching office, general business, or distributive education courses; and with additional degrees, for teaching, coordinating, or administrative duties in colleges and universities.
- II. For Business Careers, with an Associate Degree in Business Studies.

Business subjects and related courses in communications, mathematics, science, economics, history, government, and physical education, prepare the student for employment in business and commercial occupations. There are excellent positions open to community college graduates. Courses of study are planned in areas where job opportunities clearly exist. These offerings are modified from time to time as the needs of the communities change. Emphasis is placed on assisting the student in choosing a curriculum to meet vocational requirements, in accordance with his interest and aptitudes. Some suggestions are printed here for general information; however, each student plans, with his adviser, a sequence of studies to fit his individual needs.

Cooperative Occupational Education. This is a method by which a student may apply learned skills, principles, and concepts in the role of an actual paid on-the-job learning worker. The selected training station supervisor works with the student to help develop occupational competence in an occupational area that is directly related to the student's career goal and the curriculum that he or she has chosen. This learning experience of at least 15 hours per week in a real-life job and one hour per week in a co-op class is supervised by a state certified coordinator. Three credits per semester are earned by the co-op student for successfully meeting all requirements.

Students who are interested in cooperative education may make formal application in the cooperative education office.

In addition to these two regular groups, the Business Education Division welcomes those students who do not wish to complete degree requirements, who desire to take a single course, or a series of courses, in the Day or Evening College, to fulfill their particular requirements. Many students find themselves in circumstances that do not permit a full two-year program.

BUSINESS ONE-YEAR CURRICULA

These courses, designed especially for the student who plans to attend college for only one year, give the technical knowledge necessary for entry into the business field. Students completing this program have been placed in attractive positions. The following courses are recommended but may be changed to meet individual needs and interests.

ACCOUNTING CURRICULUM

Suggested Courses

Certificate Program

First Semester	Sem Hrs
Gen Bus 151 — Business Communications	3
Acct 111 or Acct 112 — Introductory	4
Bus Mach 170 and 171** or 172 — Beg. or Inter. Typewriting	2,3
Bus Mach 175 — Machine Calculation	2
Econ 111 — Principles of Economics	3
Gen Bus 110 — Business Computation	3
	17,18

Second Semester

Gen Bus 152 — Business Communications	3
Acct 112 Introductory or — Acct Elective	4,3
Gen Bus 225 — Office Administration	3
Econ 112 — Principles of Economics	3
Data Proc 133 — Introduction	3
	16,15

MACHINE CALCULATION CURRICULUM

Certificate Program

First Semester	Sem Hrs
Gen Bus 151 — Business Communications	3
Acct 111 or 112 — Introductory	4
Bus Mach 170 and 171** or 172 — Beg. or Inter Typewriting	2,3
Bus Mach 175 and 176 — Machine Calculation	4
Gen Bus 110 — Business Computation	3
	16,17

Second Semester

Gen Bus 152 — Business Communications	3
Bus Mach 172 or 273 — Inter. or Advanced Typewriting ...	3
Bus Mach 274 — Voice Transcription	2
Gen Bus 157 — Filing and Records Management	3
Sec Sci 261 — Secretarial Practices	3
Speech 112 — Principles of Public Speaking	3
	17

**Business Machines 170 and 171 will be waived if the department proficiency exam is passed.

SECRETARIAL CURRICULUM

Certificate Program

First Semester

	Sem Hrs
Gen Bus 151 — Business Communications	3
Sec Sci 162* — Intermediate Shorthand	4
Bus Mach 172* — Intermediate Typewriting	3
Gen Bus 153 — Introduction to Business	3
Bus Mach 175 — Machine Calculations	2
Elective	3
	18

Second Semester

Gen Bus 152 — Business Communications	3
Sec Sci 263 — Dictation and Transcription	4
Bus Mach 273 — Advanced Typewriting	3
Gen Bus 157 — Filing and Records Management	3
Elective	5
	18

* Electives may be substituted upon demonstration of equivalent skills.

Required:

Business	8
Secretarial Science	18
Other	26
Total Business Required	

Electives

Total Credits

8
34

Suggested Electives

Acct 111 — Introductory Accounting	4
Bus Mach 274 — Voice Transcription and Copying Machine Procedures	3
Data Proc 133 — Introduction to Data Processing	2
Econ 111 — Essentials of Economics	3
Gen Bus 110 — Business Computation	3
Psy 101 — Applied Psychology	3
Speech 112 — Principles of Public Speaking	3

Any exceptions to the above curriculum must be approved by the Division Chairman.

ACCOUNTING CURRICULUM

Associate Degree Program

First Semester

	Sem Hrs
Acct 111 (or 211) — Introductory Accounting	4
Gen Bus 151 — Business Communications	3
Bus Mach 170 & 171* — Beginning Typewriting	2
Gen Bus 153 — Introduction to Business	3
Gen Bus 110 — Business Computation	3
	15

Second Semester

Acct 112 (or 212) — Introductory Accounting	4
Gen Bus 152 — Business Communications	3
Bus Mach 175 — Machine Calculation	2
Data Proc 133 — Introduction to Data Processing	3
Elective	3
	15

Third Semester

Acct 213 — Cost Accounting	3
Gen Bus 251 — Business Law	3
Pol Sci 103 — Intro. to American Government	3
Econ 111 — Essentials of Economics	3
Elective	3
PE — Elective — Activity	1
	16

Fourth Semester

Acct 215 — Federal Tax Accounting	3
Gen Bus 255 — Office Administration or**	3
Elective	3
Elective	3
Elective	3
PE — Elective — Activity	1
	16

Required:

Business	
Accounting	14
Other	25
Total Business	39
Non-Business	5
State (Pol Sci)	3
Total required	47

Electives

	15
Total Semester Hours	62

Suggested Electives:**Non-Business**

Speech 112 — Principles of Public Speaking; Math 108 — Elementary Statistics; Psy 101 — Applied Psychology; Econ 112 — Essentials of Economics

Business

Acct 113 — Social Security and Payroll; Acct 217 — Auditing Theory and Procedure; Acct 223 — Intermediate Accounting; Acct 224 — Intermediate Accounting; Data Proc 235 — Data Processing Applications

**Dist Ed 245 — Principles of Management

Gen Bus 157 — Filing and Records Management; Gen Bus 252 — Business Law

* Bus Mach 170 & 171 will be waived for those students passing the Dept. Proficiency Exam.

* Bus Mach 170 may be waived for those students who already know the typewriter keyboard. See course descriptions on page 58 in this catalog.)

Any exception to the above curriculum must be approved by the Division Chairman.

AIRLINE HOSTESS CURRICULUM

This may be a one- or two-year course, which must be followed by short, intensive training of a few weeks either at a school operated by an airline or by one specializing in airline operations.

The following program recommended by a national airline is characteristic of suggestions made by other airlines.

Qualifications:

Age: 20 to 28

Marital Status: Single

Height: 5'2" to 5'7"

Weight: 130 pounds maximum in proportion to height

Attractive appearance and personality

Visual Acuity: 20/30 without corrective lenses

Suggested Preparatory Courses:

English, Psychology, Public Speaking, Sociology

Hygiene, Physiology

Languages

Music, Art

Geography, Political Science

Physical Education

The same airline states: If selected, the applicant will attend a training school, during which time she will be furnished room, board, and classroom equipment. Upon successful completion of the training program, she will be considered for employment, and, if accepted, will be assigned a base station.

AIRLINE HOSTESS — CLERICAL CURRICULUM**Associate Degree Program**

First Semester	Sem Hrs
Gen Bus 151 — Business Communications	3
Bus Mach 170 — Beginning Typewriting	1
Bus Mach 171 — Beginning Typewriting	1
or	
Bus Mach 172 — Intermediate Typewriting	3
Gen Bus 110 — Business Computation	3
Elective	7
PE — Elective — Activity	1
	19

Second Semester

Gen Bus 152 — Business Communications	3
Bus Mach 175 — Machine Calculation	2
Gen Bus 153 — Introduction to Business	3
Elective	6,7
PE — Elective — Activity	1
	15,16

Third Semester

Psy 101 — Applied Psychology	3
Data Proc 133 — Introduction to Data Processing	3
Gen Bus 157 — Filing and Records Management	3
Pol Sci 103 — Introduction to American Government	3
Elective	3
	15

Fourth Semester

Acct 111 — Introductory Accounting	4
Gen Bus 255 — Office Administration	3
Speech 112 — Principles of Public Speaking	3
Electives	5
	15

Required:

Business	29
State and Local Required	5
Non-Business Required	6
Total Required	40

Electives

.....	22
Total Semester Hours	62

Suggested Electives

Bus Mach 274 — Voice Transcription and Copying Machine Procedures
Econ 111 — Essentials of Economics
Econ 112 — Essentials of Economic
HE 171 — Personal Health
Geog 114 or 115 World Cultural Regions, Western World or Non-Western World
Psy 211 — General Psychology
Sec Sci 261 — Secretarial Practices
Soc 211 — Principles of Sociology
Soc 212 — Social Problems

Any exceptions to the above curriculum must be approved by the Division Chairman.

DATA PROCESSING CURRICULUM

Associate Degree Program

First Semester

	Sem Hrs
Data Proc 133 — Introduction to Data Processing	3
Acct 211 or Acct 111 — Prin of Acct or Intro to Acct	4
Math 119, 122, 151 or Gen Bus 110	3,4
Gen Bus 151 — Business Communications	
or Eng 111 — Freshman Composition	3
Data Proc 179 — Key punching or Business Elective	2,3
PE — Elective — Activity	1
	16,18

Second Semester

Data Proc 134 — Machine Operation	3
Data Proc 243 — Report Program Generator Programming ...	3
Acct 212 or Acct 112 — Prin of Acct or Intro to Acct	4
Gen Bus 152 — Business Communications	
or Eng 112 — Freshman Composition	3
Math 108 — Statistics or Math Elective	3
	16

Third Semester

Data Proc 235 — Data Processing Applications	3
Data Proc 245 — COBOL Programming	3
Econ 221 — Principles of Economics or Elective	4
Speech 112 — Principles of Public Speaking or Elective ...	3
PE — Elective — Activity	1
	14

Fourth Semester

Data Proc 246 — PL/I Programming	3
Pol Sci 103 — Introduction to American Government	3
Econ 222 — Principles of Economics or Elective	4
Psy 101 — Applied Psychology or Business Elective	3
Elective	3
	16

Required for Associate Degree:

	Hours
Data Proc*	18
Accounting	8
Math and/or Gen Bus 110	6
Gen Bus 151, 152 or Eng 111, 112	6
Pol Sci	3
Total Required	41

Suggested Electives:

Gen Bus 153 — Introduction to Business
Acct 213 — Cost Accounting
Data Proc 239 — BAL Programming
Dist Ed 243 — Marketing
Gen Bus 251, 252 — Business Law
Dist Ed 245 — Principles of Management

* Data Proc 250, 251 or 239 may be substituted for part of the Data Processing requirements by students who enter the program on advanced placement.

Any exceptions to the above curriculum must be approved by the Division Chairman.

FINANCE AND BANKING CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Acct 111 — Introductory Accounting	4
Coop Ed 121 — Cooperative Education	3
Econ 111 — Essentials of Economics	3
Eng 111 — Freshman Composition	3
Gen Bus 110 — Business Computation	3
PE — Elective — Activity	1
	17

Second Semester

Acct 112 — Introductory Accounting	4
Coop Ed 122 — Cooperative Education	3
Elective	3
Gen Bus 153 — Introduction to Business	3
Speech 112 — Principles of Public Speaking	3
PE — Elective — Activity	1
	17

Third Semester

Acct 213 — Cost Accounting	3
Coop Ed 221 — Cooperative Education	3
Data Proc 133 — Introduction to Data Processing	3
Gen Bus 251 — Business Law	3
Econ 280 — Money and Banking	3
	15

Fourth Semester

Acct 217 — Auditing Theory and Procedure	3
Coop Ed 222 — Cooperative Education	3
Data Proc 235 — Data Processing Accounting Applications ..	3
Gen Bus 151 — Business Communications	3
Gen Bus 252 — Business Law	3
	15

Fifth Semester

Gen Bus 152 — Business Communications	3
Phil 211 — Introduction to Philosophy	3
Pol Sci 103 — Introduction to American Government	3
Elective	3
	12

MANAGEMENT CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Acct 111 — Introductory to Accounting	4
Gen Bus 151 — Business Communications	3
Gen Bus 153 — Introduction to Business	3
Bus Mach 170* — Beginning Typewriting (7½ weeks)	1
Bus Mach 171* — Beginning Typewriting (7½ weeks)	1
Electives	3
PE — Elective — Activity	1
	16

Second Semester

Acct 112 — Introductory to Accounting	4
Gen Bus 152 — Business Communications	3
Data Processing (To be arranged)	3
Electives	6
	16

Third Semester

Gen Bus 251 — Business Law	3
Dist Ed 245 — Principles of Management	3
Pol Sci 103 — Introduction to American Government	3
Electives	5
PE — Elective — Activity	1
	15

Fourth Semester

Dist Ed 143 — Advertising	3
Gen Bus 255 — Office Administration	3
Dist Ed 243 — Marketing	3
Electives	6
	15

* Bus Mach 170 and 171 will be waived for those students passing the Department Proficiency Exam.

* Bus Mach 170 may be waived for those students who already know the typewriter keyboard.

Required

Business	34
Electives	
(9 must be in Business)	23
State & local required	5
Total Semester Hours	62

Suggested Business Electives

Dist Ed 145 — Sales	
Gen Bus 110 — Business Computations	

Data Proc 235 — Data Processing Applications
 Gen Bus 252 — Business Law
 Bus Mach 175 — Machine Calculation
 Gen Bus 157 — Filing and Records Management
 Acct 213 — Cost Accounting
 Dist Ed 141-142 — Transportation and Traffic Management
 Dist Ed 241-242 — Transportation and Traffic Management
 Co-op education may be elected
 for (3-12 credits)
 See J. Christensen, J-105

Suggested Non-Business Electives

Speech 112 — Principles of Public Speaking
 Psy 101 — Applied Psychology
 Econ 111 or 221 — Principles of Economics
 Soc 211 — Principles of Sociology

Any exceptions to the above curriculum must be approved by the Division Chairman.

MARKETING CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Acct 111 — Introductory Accounting	4
Gen Bus 151 — Business Communications	3
Gen Bus 153 — Introduction to Business	3
Bus Mach 170* — Beginning Typewriting (7½ weeks)	1
Bus Mach 171* — Beginning Typewriting (7½ weeks)	1
Elective	3
PE — Elective — Activity	1
	16

Second Semester

Data Proc — (To be arranged)	3
Gen Bus 152 — Business Communications	3
Dist Ed 243 — Marketing	3
Electives	6
	15

Third Semester

Gen Bus 251 — Business Law	3
Dist Ed 145 — Sales	3
Dist Ed 143 — Advertising	3
Pol Sci 103 — Introduction to American Government	3
Elective	3
PE — Elective — Activity	1
	16

Fourth Semester

Dist Ed 247 — Retailing	3
Gen Bus 255 — Office Administration or Dist Ed 245 — Principles of Management	3
Electives	9
	15

* Bus Mach 170 & 171 will be waived for those students passing the Department Proficiency Exam.

* Bus Mach 170 may be waived for those students who already know the typewriter keyboard. (See course descriptions on page 58 in this catalog.)

Required

Business	36
Elective	
(6 must be in Business)	21
State & local required	5
Total Semester Hours	62

Suggested Business Electives

Acct 112 — Introductory Accounting
 Gen Bus 110 — Business Computation
 Data Proc 235 — Data Processing Applications
 Gen Bus 252 — Business Law
 Gen Bus 255 — Office Management
 Dist Ed 245 — Principles of Management
 Bus Mach 175 — Machine Calculations
 Gen Bus 157 — Filing and Records Management
 Co-op Ed may be elected for credit (3-12 credits).
 See J. Christensen, J-105

Suggested Non-Business Electives

Speech 112 — Principles of Public Speaking
 Psy 101 — Applied Psychology
 Soc 211 — Principles of Sociology
 Econ 111 or 221 — Essentials or Principles
 Eng 115 and/or 116 — Basic Journalism Skills
 or News Reporting
 Art 115 and/or 116 — Basic Design Two or
 Three Dimensional

Any exceptions to the above curriculum must be approved by the Division Chairman.

MEDICAL ASSISTANT CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 151 — Business Communication	3
Sec Sci 161* — Beginning Shorthand	4
Bus Mach 172* — Intermediate Typewriting	3
Sec Sci 165 — Orientation to Medical Office Work	1
HE 171 — Personal Health	3
PE — Elective — Activity	1
	15

Second Semester

Gen Bus 152 — Business Communications	3
Sec Sci 162† — Intermediate Shorthand or	
Sec Sci 263 — Dictation and Transcription	4
Bus Mach 273 — Advanced Typewriting	3
Bus Mach 175 — Machine Calculations	2
Sec Sci 166 — Orientation to Community Health Service	1
Biol 105 — Anatomy and Physiology for Medical Asst.,	
or Health Sci 111 — Medical Terminology, or Elective	2
Elective	1
	16

Third Semester

Sec Sci 265 — Nursing Arts	3
Psy 101 — Applied Psychology	3
Bus Mach 274 — Voice Transcription and	
Copying Machine Procedures	2
Gen Bus 157 — Filing and Records Management	3
Coop Ed 121 — Cooperative Office Education or Elective	3
PE — Elective — Activity	1
	15

Fourth Semester

Acct 111 — Introductory Accounting	4
Sec Sci 261 — Secretarial Practices	3
Sec Sci 266 — Orientation to the Medical Laboratory	3
Pol Sci 103 — Introduction to American Government	3
Coop Ed 122 — Cooperative Office Education or Elective	3
	16

* Electives may be substituted upon demonstration of equivalent skills.

† Sec Sci 263 may be substituted if student has achieved the proficiency required in Sec. Sci 162.

Required:

Business	42
Other	6
State	3
Phys Ed	2
Total Required	53
Electives	9,16
Total Semester Hours	62,69

Suggested Business Electives

Sec Sci 263 — Dictation and Transcription
Sec Sci 264 — Speed Building and Specialized Shorthand
Coop Ed 221, 222 — Cooperative Office Education
Gen Bus 255 — Office Administration
Data Proc 133 — Introduction to Data Processing
Gen Bus 251 — Business Law
Bus Mach 179 — Key Punching and Verifying
Gen Bus 110 — Business Computations

Suggested Non-Business Electives

Speech 112 — Principles of Public Speaking
Econ 111 — Essentials of Economics

REAL ESTATE CURRICULUM*

Associate Degree Program

First Semester	Sem Hrs
RE 181 — Real Estate Principles I	3
Gen Bus 110 — Business Computations	3
Acct 111 — Introductory Accounting	4
Gen Bus 151 — Business Communications	3
Bus Mach 170 & 171† — Beginning	
Typewriting (7½ weeks each)	2
PE — Elective — Activity	1
	16

Second Semester

RE 183 — Real Estate Procedure	3
RE 182 — Real Estate Principles II	3
Data Proc 133 — Introduction to Data Processing	3
Acct 112 — Introductory Accounting	4
Gen Bus 152 — Business Communications	3
PE — Elective — Activity	1
	17

Third Semester

RE 281 — Real Estate & Government	3
Acct 215 — Federal Tax Accounting	3
Dist Ed 145 — Sales	3
Gen Bus 153 — Introduction to Business	3
Gen Bus 251 — Business Law	3
	15

Fourth Semester

RE 282 — Real Estate Finance	3
RE 283 — Real Estate Appraisal	3
Pol Sci 103 — Introduction to American Government	3
Elective	3
Arch Tech 101 — Materials and Methods of Architectural Construction	2
Bus Mach 175 — Machine Calculation	2
	16

* Students who complete this program will be exposed to the material required for the salesman's license examination. They will also have completed the subject matter required by the National Association of Real Estate Boards for the new G.R.I. rating (Graduate Realtors Institute).

† Business Machines 170 and 171 will be waived if the Department Proficiency Exam is passed.

RETAIL MID-MANAGEMENT CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 153 — Introduction to Business	3
Coop Ed 125 — Cooperative Distributive Education	3
Gen Bus 151 — Business Communications	3
Speech 112 — Principles of Public Speaking	3
Bus Mach 170* — Beginning Typewriting (7½ weeks)	1
Bus Mach 171* — Beginning Typewriting (7½ weeks) or Elective	1,3
PE — Elective — Activity	1
	15,17

Second Semester

Gen Bus 152 — Business Communications	3
Acct 111 — Introductory Accounting	4
Dist Ed 247 — Retailing	3
Coop Ed 126 — Cooperative Distributive Education	3
PE — Elective — Activity	1
	14

Third Semester

Coop Ed 225 — Cooperative Distributive Education	3
Business Electives	6
	9

Fourth Semester

Psy 101 — Applied Psychology	3
Dist Ed 243 — Principles of Marketing	3
Coop Ed 226 — Cooperative Distributive Education	3
Dist Ed 143 — Advertising	3
Non-Business Elective	3
	15

Fifth Semester

Gen Bus 251 — Business Law	3
Dist Ed 245 — Principles of Management	3
Pol Sci 103 — Introduction to American Government	3
Dist Ed 145 — Sales	3
Non-Business Elective	3
	15

* Electives may be substituted upon demonstration of equivalent skills.

Suggested Electives

Data Proc 133 — Introduction to Data Processing
Acct 112 — Introductory Accounting
Gen Bus 110 — Business Computations
Gen Bus 252 — Business Law
Gen Bus 255 — Office Administration
Gen Bus 157 — Filing and Records Management
Dist Ed 141 — Transportation and Traffic Management
Bus Mach 175 — Machine Calculation
Econ 111 or 221 — Essentials or Principles
Soc 211 — Principles
Eng 111 — Freshman Composition
Art 115 — Basic Design — Two Dimensional

Arrangements for **Cooperative Distributive Education** should be made with J. Christensen, J-105.

Any exception to the above curriculum must be approved by the Division Chairman.

CHEMICAL SECRETARIAL CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 151 — Business Communications	3
Sec Sci 161* — Beginning Shorthand	4
Bus Mach 170* — Beginning Typewriting (7½ weeks)	1
Bus Mach 171* — Beginning Typewriting (7½ weeks)	1
Gen Bus 153 — Introduction to Business	3
Gen Bus 110 — Business Computations	3
PE — Elective — Activity	1
	16

Second Semester

Gen Bus 152 — Business Communications	3
Sec Sci 162* — Intermediate Shorthand	4
Bus Mach 172* — Intermediate Typewriting	3
Gen Bus 157 — Filing and Records Management	3
Acct 111 — Introductory Accounting	4
	17

Third Semester

Sec Sci 263 — Dictation and Transcription	4
Bus Mach 273 — Advanced Typewriting or Bus Mach 274 — Voice Transcription and Copying Machine Procedures	3,2
Bus Mach 175 — Machine Calculations	2
Chem 101 — General Chemistry	5
Psy 101 — Applied Psychology or Elective	3
	17,16

Fourth Semester

Sec Sci 264 — Speed Buildng and Specialized Shorthand ...	3
Sec Sci 261 — Secretarial Practices	3
Data Proc 133 — Introduction to Data Processing	3
Pol Sci 103 — Introduction to American Government	3
Elective	3
PE — Elective — Activity	1
	16

* Electives may be substituted upon demonstration of equivalent skills.

Required

Business	
Secretarial Science	18
Other	32
Total Business Required	50
State and local required	5
Non-Business required	5
Total Required	60

Electives

3

Total Semester Hours

63

Suggested Electives

Bus Mach 179 — Key Punching and Verifying
Acct 113 — Social Security and Payroll Accounting
Gen Bus 251 — Business Law
Gen Bus 255 — Office Administration
Coop Ed 121, 122, 221, 222 — Cooperative Office Education
Chem 102 — General Chemistry
Econ 111 — Essentials of Economics
Speech 112 — Principles of Public Speaking

Any exceptions to the above curriculum must be approved by the Division Chairman.

LEGAL SECRETARIAL CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Gen Bus 151 — Business Communications	3
Sec Sci 161* — Beginning Shorthand	4
Bus Mach 170* — Beginning Typewriting (7½ weeks)	1
Bus Mach 171* — Beginning Typewriting (7½ weeks)	1
Gen Bus 153 — Introduction to Business	3
Gen Bus 110 — Business Computations	3
PE — Elective — Activity	1
	16

Second Semester

Gen Bus 152 — Business Communications	3
Sec Sci 162* — Intermediate Shorthand	4
Bus Mach 172* — Intermediate Typewriting	3
Data Proc 133 — Introduction to Data Processing	3
Gen Bus 157 — Filing and Records Management	3
	16

Third Semester

Sec Sci 263 — Dictation and Transcription	4
Bus Mach 273 — Advanced Typewriting	3
Acct 111 — Introductory Accounting	4
Bus Mach 175 — Machine Calculation	2
Gen Bus 251 — Business Law	3
	16

Fourth Semester

Sec Sci 264 — Speed Building and Specialized Shorthand ..	3
Sec Sci 261 — Secretarial Practices	3
Bus Mach 274 — Voice Transcription and Copying Machine Procedures	2
Gen Bus 252 — Business Law	3
Pol Sci 103 — Introduction to American Government	3
PE — Elective — Activity	1
	15

* Electives may be substituted upon demonstration of equivalent skills.

Required

Business	
Secretarial Science	18
Other	40
Total Business Required	58
State and local required	5
Total Semester Hours	63

Suggested Electives

Acct 113 — Social Security and Payroll Accounting
 Bus Mach 179 — Key Punching and Verifying
 Coop Ed 121, 122, 221, 222 — Cooperative Office Education
 RE 181 — Real Estate Principles I
 Gen Bus 255 — Office Administration
 Econ 111 — Essentials of Economics
 Psy 101 — Applied Psychology
 Speech 112 — Principles of Public Speaking

Any exceptions to the above curriculum must be approved by the Division Chairman.

SECRETARIAL CURRICULUM (GENERAL)

Associate Degree Program

First Semester

	Sem Hrs
Gen Bus 151 — Business Communications	3
Bus Mach 170* — Beginning Typewriting (7½ weeks)	1
Bus Mach 171* — Beginning Typewriting (7½ weeks)	1
Sec Sci 161* — Beginning Shorthand	4
Gen Bus 153 — Introduction to Business	3
Gen Bus 110 — Business Computations	3
PE — Elective — Activity	1
	16

Second Semester

Gen Bus 152 — Business Communications	3
Sec Sci 162* — Intermediate Shorthand	4
Bus Mach 172* — Intermediate Typewriting	3
Gen Bus 157 — Filing and Records Management	3
Data Proc 133 — Introduction to Data Processing	3
	16

Third Semester

Sec Sci 263 — Dictation and Transcription	4
Bus Mach 273 — Advanced Typewriting	3
Acct 111 — Introductory Accounting	4
Bus Mach 175 — Machine Calculation	2
Psy 101 — Applied Psychology or Elective	3,2
	16,15

Fourth Semester

Sec Sci 264 — Speed Building and Specialized Shorthand ..	3
Sec Sci 261 — Secretarial Practices	3
Acct 113 — Social Security and Payroll Accounting	2
Pol Sci 103 — Introduction to American Government	3
Elective	4
PE — Elective — Activity	1
	16

* Electives may be substituted upon demonstration of equivalent skills.

Required

Business	
Secretarial Science	18
Other	34
Total Business	52
State and local required	5
Total Required	57
Electives	7
Total Semester Hours	64

Suggested Electives

Bus Mach 274 — Voice Transcription and Copying Machine Procedures
 Bus Mach 179 Key Punching and Verifying
 Coop Ed 121, 122, 221, 222 — Cooperative Office Education
 Gen Bus 255 — Office Adminsitration
 Econ 111 — Essentials of Economics
 Speech 112 — Principles of Public Speaking

Any exception to the above curriculum must be approved by Division Chairman.

DENTAL ASSISTANT CURRICULUM

Associate Degree Program

Due to increasing popularity and existing facilities, this program is presently considered a "limited" curriculum. A waiting list is maintained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

First Semester	Sem Hrs
DA 101 — Introduction to Dental Assisting	4
DA 102 — Dental Anatomy and Physiology	2
Bas Sci 101 — Integrated Allied Health Science	5
Gen Bus 157 — Filing and Records Management	3
Bus Mach 170 & 171 — Beginning Typewriting (7½ weeks ea.)	2
PE — Elective — Activity	1
	17

Second Semester

DA 103 — Dental Materials and Lab Procedures	4
DA 104 — Dental Instruments and Equipment	2
Gen Bus 151 — Business Communications	3
DA 105 — Pathology and Pharmacology	3
Psy 101 — Applied Psychology	3
PE — Elective — Activity	1
	16

Third Semester

Soc 121 — Preparation for Marriage and Family Living	3
DA 201 — Dental Roentgenology	3
DA 202 — Operative Procedures	4
DA 203 — Dental Records and Practice Administration	2
Gen Bus 152 — Business Communications	3
	15

Fourth Semester

Speech 112 — Principles of Public Speaking	3
DA 210 — Internship	7
Pol Sci 103 — Introduction to American Government	3
Elective	3
	16

NURSING CURRICULUM

Associate Degree Program

Due to increasing popularity and existing facilities, this program is presently considered a "limited" curriculum. A waiting list is maintained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

The nursing program prepares young men and women to function effectively as members of the health team. The student will develop the ability to be self-directing, to identify problems, and to work toward achieving satisfactory solutions. He will develop the basic knowledge and skills necessary for the nurse's role in the care of the patient.

The nursing program is five semesters in length. It includes 34 semester hours in general education and 34 semester hours in nursing education. Clinical laboratory experiences are offered the student under the supervision of the college nursing faculty. Various health agencies of the Saginaw Valley are utilized in offering these experiences to the student.

Upon successful completion of the program of study the student will be awarded the Associate in Applied Science Degree by Delta College.

The nursing program is approved by the Michigan Board of Nursing and the National League for Nursing. The student, after graduation, is eligible to sit for the State Board Examinations, leading to Michigan Licensure and the privilege of using the title of Registered Nurse (RN).

General Education Courses	Sem Hrs
Eng 111 — Freshman Composition	3
Eng 112 — Freshman Composition	3
Bas Sci 101 — Integrated Allied Health Science	5
Bas Sci 102 — Integrated Allied Health Science	5
Pol Sci 103 — Introduction to American Government	3
Soc 211 — Principles of Sociology	3
PE — Elective — Activity	1
PE — Elective — Activity	1
Psy 211 — General Psychology	4
Psy 231 — Personality	3
Elective — Speech or Literature	3
	34

Nursing Courses

Nursing 111 — Fundamentals of Nursing	8
Nursing 211 — Nursing in Physical and Mental Illness	8
Nursing 112 — Maternal and Child Nursing	8
Nursing 212 — Nursing in Physical and Mental Illness	8
Nursing 213 — Trends in Nursing	2
	34

The catalog course descriptions should be checked prior to registration for prerequisites.

RADIOLOGIC TECHNOLOGY CURRICULUM

Associate Degree Program

Due to increasing popularity and existing facilities, this program is presently considered a "limited" curriculum. A waiting list is maintained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

First 15 week Semester

Sem Hrs

Bas Sci 101 — Integrated Allied Health Science	5
Rad Tech 111 — Introduction to Radiologic Technology	3
PE 101 — Physical Fitness	1
Elective	3,4
	12,13

Second 15-week Semester

Eng 111 — Freshman Composition	3
Rad Tech 101 — Radiographic Anatomy	5
Rad Tech 112 — Radiologic Technology I	4
PE — Elective — Activity	1
Health Sci 111 — Medical Terminology	2
	15

Third 15-week Semester

Eng 112 — Freshman Composition	3
Rad Tech 102 — Radiographic Physics	3
Rad Tech 113 — Radiologic Technology II	8
	14

Fourth 15-week Semester

Psy 101 — Applied Psychology	3
Bus Mach 170 & 171 — Beginning Type (7½ weeks ea.)	2
Rad Tech 211 — Advanced Radiologic Technology I	11
	16

Fifth 15-week Semester

Soc 211 — Principles of Sociology	3
Pol Sci 103 — Introduction to American Government	3
Rad Tech 212 — Advanced Radiologic Technology II	11
	17

Sixth 15-week Semester

Rad Tech 213 — Advanced Radiologic Technology III	15
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Seventh and Eighth 15-week Semesters

Rad Tech 311* — Radiologic Internship	12
Rad Tech 312* — Radiologic Internship	12

* Follow in consecutive order with no semester break.

BROADCASTING CURRICULUM

Associate Degree Program

Due to increasing popularity and existing facilities, this program is presently considered a "limited" curriculum. A waiting list is maintained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

The Delta College Broadcasting Curriculum combines special radio-television courses with general education classes. Students work with professional broadcasters who serve as teaching faculty. Experience in the College's Television Department may be coupled with on-the-job training at local commercial stations.

Upon successful completion of the four-semester Broadcasting Curriculum, students are eligible for an Associate Degree in Arts or an Associate Degree in Applied Science, depending on selection of electives. In fundamentals of broadcasting, for example, freshmen composition, physical education, and political science augment a block of radio-television classes, including speaking and announcing, studio operations, broadcast news, oral interpretation, broadcast sales, and television production and direction.

First Semester

Sem Hrs

Eng 111 — Freshman Composition	3
RTV 149 — Broadcasting Laboratory	3
RTV 150 — Radio and Television Writing	3
RTV 156 — Radio Broadcasting	3
Pol Sci 111 — American Government and Politics	
or Pol Sci 103 — Introduction to Am. Government	4,3
	16,15

Second Semester

Eng 112 — Freshman Composition	3
RTV 153 — Broadcast Performance	3
RTV 154 — Fundamentals of Studio Operations	3
RTV 157 — Cinematography for Television	3
Elective	3
	15

Third Semester

Econ 221 — Principles of Economics	4
RTV 220 — Communications History, Law and Responsibilities	3
RTV 222 — Broadcast Journalism	3
RTV 225 — Advanced Studio Operations	3
Speech 213 — Oral Interpretation of Literature or Speech 112 — Principles of Public Speaking	3
	16

Fourth Semester

RTV 227 — Broadcast Sales	3
RTV 251 — Television Producing and Directing	3
Electives	9
	15

The Television Department will attempt to provide work-related experiences in broadcasting stations for students who are qualified and desire such experience.

Those students who intend to transfer and pursue a baccalaureate degree should consult with a counselor when choosing electives.

LAW ENFORCEMENT CURRICULUM

Associate Degree Program

Delta College offers a Law Enforcement program that is designed to give specialized knowledge of law enforcement combined with a broad general educational background. The program offers theoretical, practical, and technical instruction designed to meet ever-increasing demands and continuous upgrading by law enforcement agencies, including skills and attitudes required for employment or advancement.

Students graduating from Delta College's two-year Law Enforcement curriculum receive an Associate Degree in Applied Science and are eligible for immediate employment or transfer to leading state university Law Enforcement Programs.

First Semester

	Sem Hrs
Pol Sci 103 — Introduction to American Government	3
Eng 111 — Freshman Composition	3
LE 110 — Introduction to Law Enforcement	3
LE 111 — Police Organization and Administration	3
Speech 112 — Principles of Public Speaking	3
PE 101 — Physical Fitness	1
	16

Second Semester

Eng 112 — Freshman Composition	3
Biol 111 — Principles of Biology	4
LE 112 — Police Operations	3
Chem 101 — General Chemistry or Geol 111 — Physical Geology	5,4
PE 125 — Judo or PE 128 — Wrestling	1
	16,15

Third Semester

Psy 211 — General Psychology	4
Soc 211 — Principles of Sociology	3
Hist Elective*	4,3
LE 210 — Introduction to Criminal Investigation	3
LE 250 — Juvenile Delinquency	3
	17,16

Fourth Semester

LE 260 — Legal & Criminal Behavior	3
LE 270 — Evidence & Criminal Procedure	3
LE 271 — Criminal Law	3
Approved Elective**	3
Approved Elective**	3
	15

*History electives: Hist 111 — Survey of Early Western Civilization, Hist 112 — Survey of Later Western Civilization, Hist 221 — U.S. to 1865, Hist 222 — 1865 to Present.

**For transfer to Michigan State University and Wayne State University, a course in Social Studies and a course in Humanities is needed.

PUBLIC SERVICE CURRICULUMS

Delta College offers Public Service programs that are designed to give knowledge of public service combined with a broad educational background. Upon successful completion of the program, the student will be awarded the degree of Associate in Arts for the Urban-professional Assistant program and the Social Health Services Assistant.

Associate Degree Programs

Basic courses required for each Public Service Curriculum

Sem Hrs

Eng 111 — Freshman Composition	3
Eng 112 — Freshman Composition	3
Pol Sci 103 — Introduction to American Government	3
Pol Sci 128 — Introduction to Urban Public Service Problems	4
Pol Sci 228 — Internship	3
Psy 211 — General Psychology	4
PE — Elective — Activity (two sections)	2
Humanities Electives	6
Science Electives	8
	36

Professional Area Courses

(In addition to required basic courses)

Social Health Services Assistant

Hist 244 — Hist of Urban America	3
Soc 150 — Community Organization and Analysis	3
Soc 212 — Social Problems	3
Geog 211 — Economic Geography	4
Psy 231** — Psychology of Personality	3
Econ 221** — Principles of Economics	4
Pol Sci 220** — Minority Group Politics	3
Electives*	3
	26

Urban Professional Assistant

Hist 244 — History of Urban America	3
Soc 150 — Community Organization and Analysis	3
Soc 212 — Social Problems	3
Geog 211 — Economic Geography	4
Econ 221** — Principles of Economics	4
Econ 222** — Principles of Economics	4
Electives*	5
	26

**Electives to be determined after consultation with faculty of the Urban Public Service Program.

Suggested Electives:

- * Data Proc 133 — Introduction
- Eng 113 — Technical Writing
- Eng 121 — Reading Techniques
- Eng 271 — American Literature
- Eng 272 — American Literature
- Eng 275 — Afro-American Literature
- Phil 211 — Introduction to Philosophy
- Phil 212 — Reading in Elementary Philosophy
- Phil 203 — Introduction to Ethics
- Phil 221 — Logic
- Spch 112 — Principles of Public Speaking
- Math 108 — Elementary Statistics
- Biol 111 — Principles of Biology
- Biol 112 — General Biology
- Biol 115 — Environmental Science
- Chem 111 — General and Inorganic Chemistry
- Hist 214 — Blackman in America
- Hist 215 — Blackman in the United States.
- Law Enf 110 — Introduction to Law Enforcement
- Pol Sci 212 — State and Local Government
- Pol Sci 227 — American Political Parties
- Soc 121 — Marriage and Family
- Soc 231 — Cultural Anthropology

TECHNICAL CAREER PROGRAMS

Associate Degree and Certificate Curricula. The technical programs at Delta College evolved at the request of local industry. After many months of study and development, these college-level courses were offered to interested students for preparing them to enter well-paid positions in industry. To achieve this end, the curricula are practical in nature and job-oriented in purpose.

The current trend is toward fewer unskilled jobs and increased emphasis on technical training. The demand for skilled technicians will continue to increase along with the need for professionally trained personnel. Successful completion of a curriculum enables a vocationally oriented student to enter an available position as a member of the American industrial team.

The programs are broad in nature, serve a variety of industrial requirements, and they provide the necessary base for future upgrading of the individual as required by a changing technology. Continual review and improvement render the curricula immediately relevant and practical.

ARCHITECTURAL TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester Sem Hrs

Arch Tech 105 — Architectural Drafting I	7
Arch Tech 101 — Materials and Methods of Architectural Construction	2
Math 111 — Applied Algebra I	2
Math 112 — Applied Algebra II	2
Math 106 — Elementary Slide Rule	1
PE — Elective — Activity	1
15	

Second Semester

Arch Tech 106 — Architectural Drafting II	7
Arch Tech 111 — Mechanical and Electrical Equipment for Buildings	4
Eng 111 — Freshman Composition	3
Art 153 — History of Architecture	2
PE — Elective — Activity	1
17	

Third Semester

Math 113 — Applied Trigonometry I	2
Math 114 — Applied Trigonometry II	2
Math 116 — Slide Rule	1
Eng 113 — Technical Writing	3
8	

Fourth Semester

Arch Tech 205 — Architectural Drafting III	7
Arch Tech 221 — Site Preparation	2
Phys 101 — Applied Physics	5
Arch Tech 202 — Specifications and Contracts	2
16	

Fifth Semester

Arch Tech 206 — Architectural Drafting IV	7
Arch Tech 211 — Elements of Structural Design	4
Arch Tech 203 — Estimating	2
Pol Sci 103 — Introduction to American Government	3
16	

AUTOMOTIVE SERVICE TECHNOLOGY CURRICULUM

Associate Degree Program

Due to increasing popularity and existing facilities, this program is presently considered a "limited" curriculum. A waiting list is maintained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

First Semester Sem Hrs

Auto Tech 101 — Automotive Service Orientation and Maintenance	3
Auto Tech 103 — Basic Engines	3
Auto Tech 105 — Electrical Systems	2
Auto Tech 106 — Automotive Electricity	3
Mathematics (Dr 110 recommended)	4
PE — Elective — Activity	1
16	

Second Semester

Auto Tech 110 — Diagnosis and Tune-Up	3
Auto Tech 111 — Cranking and Charging Systems	3
Auto Tech 112 — Laboratory Practice	2
Auto Tech 114 — Emission Control	2
Communication — 5 hours required (English 101 recommended)	5
PE — Elective — Activity	1
16	

Third Semester

Auto Tech 206 — Wheel Alignment	3
Auto Tech 207 — Brake Service	3
Auto Tech 208 — Laboratory Practice	2
Auto Tech 209 — Electrical Circuits	3
Pol Sci 103 — Introduction to American Government	3
14	

Fourth Semester

Auto Tech 211 — Driveline Fundamentals	7
Auto Tech 212 — Laboratory Practice	2
Auto Tech 213 — Service Management	4
Psy 101 — Applied Psychology	3
16	

AUTOMOTIVE SERVICE CURRICULUM

Certificate Program

Due to increasing popularity and existing facilities, this program is presently considered a "limited" curriculum. A waiting list is maintained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

First Semester	Sem Hrs
Auto Tech 101 — Service Orientation and Maintenance	3
Auto Tech 103 — Engines	3
Auto Tech 105 — Laboratory Practice	2
Auto Tech 106 — Automotive Electricity	3
Math 91 — Arithmetic	2
PE — Elective — Activity	1
	14

Second Semester

Auto Tech 110 — Diagnosis and Tune-Up	3
Auto Tech 111 — Cranking and Charging System	3
Auto Tech 112 — Laboratory Practice	2
Auto Tech 114 — Emission Controls	2
Eng 101 — Contemporary English	5
	15

Third Semester

Auto Tech 206 — Wheel Alignment	3
Auto Tech 207 — Brake Service	3
Auto Tech 208 — Laboratory Practice	2
Auto Tech 209 — Electrical Circuits	3
Pol Sci 103 — Introduction to American Government	3
PE — Elective — Activity	1
	15

Fourth Semester

Auto Tech 211 — Driveline Fundamentals	7
Auto Tech 212 — Laboratory Practice	2
Auto Tech 213 — Service Management	4
Psy 101 — Applied Psychology	3
	16

AUTOMOTIVE SERVICE SPECIALIST CURRICULUM

Certificate Program

Due to increase popularity and existing facilities, this program is presently considered a "limited" curriculum. A waiting list is maintained for the first course(s) of the professional course sequence. Position on the waiting list is determined by the date of admission into the program. Students are encouraged to see the curriculum counselor prior to their initial registration.

First Semester	Sem Hrs
Auto Tech (Specialist) 101 — Service Orientation and Maintenance	12

Second Semester

Auto Tech (Specialist) 102 — Electrical and Fuel System Service	12
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Third Semester

Auto Tech (Specialist) 103 — Suspension and Brake Service	12
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DRAFTING AND DESIGN CURRICULUM

Certificate Program

First Semester	Sem Hrs
Dr 111 — Engineering Drawing	5
Dr 112 — Engineering Drawing	5
Mech Tech 111 — Manufacturing Processes	3
	13

Second Semester

Dr 113 — Tool Design	5
Dr 114 — Tool Design	5
Dr 110 — Dimensional Measurement	4
	14

Third Semester

Dr 115 — Die Design	5
Dr 116 — Die Design	5
Mech Tech 213 — Machine Tools	3
	13

ELECTRONIC TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Math 111 — Applied Algebra I	2
Math 112 — Applied Algebra II	2
Math 106 — Elementary Slide Rule	1
Dr 105 — Industrial Drafting	3
Eln Tech 111 — Fundamentals of DC Circuits	4
Eln Tech 115 — Electronic Devices	2
PE — Elective — Activity	1
	15

Second Semester

Math 113 — Applied Trigonometry I	2
Math 114 — Applied Trigonometry II	2
Math 116 — Slide Rule	1
Eln Tech 112 — Fundamentals of AC Circuits	3
Eln Tech 116 — Electronic Devices and Circuits	2
Mech Tech 213 — Machine Tools	3
Eng 111 — Freshman Composition	3
	16

Third Semester

Math 211 — Applied Calculus	5
Eln Tech 213 — Solid State Devices	3
Eln Tech 214 — AC and DC Machines and Controls	2
Phys 111 — General Physics	4
Eng 113 — Technical Writing	3
	17

Fourth Semester

Eln Tech 214 — Design of Electronic Circuits	4
Eln Tech 215 — Electronic Control and Automation	4
Mech Tech 250 — Electronic Mechanics	3
Chem 101 — General Chemistry	5
PE — Elective — Activity	1
	17

Fifth Semester

Dr 216 — Electrical Drafting	2
Eln Tech 231 — Electronic Fabrication	3
Speech 112 — Principles of Public Speaking	3
Econ 111 — Essentials of Economics	3
Pol Sci 103 — Introduction to American Government	3
Math 147 — Introduction to Digital Computing	2
	16

INDUSTRIAL SUPERVISION

Certificate Program

Requirements for the completion of Industrial Supervision Certificates

1. For entry, two year's supervisory experience, identified by employer as managerial in nature or recommendation of employer;
2. Individual program to be agreed upon by the employee, employer's adviser, and representative from Delta College (counselor);
3. Completion of thirty semester hours:
 - a. While completing or following the completion of the supervisory experience, IS 294 or IS 110 3 Sem Hrs
 - b. Communications (See English & Speech) 5 to 7 Sem Hrs
 - c. Human Relations (See Social Science) 3 to 4 Sem Hrs
 - d. Technology other than "a" (see courses under Technology area) 6 to 7 Sem Hrs
 - e. Political Science 103 3 Sem Hrs
 - f. Physical Education 1 Sem Hr
 - g. Electives: The number of courses dependent on semester hours of required course work previously completed Varied Sem Hrs
 - h. Any Delta College general requirements for certificate completion Varied Sem Hrs

To obtain a list of suggested courses, contact a counselor.

INDUSTRIAL SUPERVISION

Associate Degree Program

Requirements for Completion of Associate Degree in Industrial Supervision.

1. The requirements for entry into the Industrial Supervision Associate Degree Program are the same as those for the Certificate Program.
2. If student desires, all credits earned on his Industrial Supervision Certificate Curriculum will apply on the Degree program.
3. The following are additional requirements:
 - a. Physical Education, in addition to "f" under Industrial Supervision Certificate 1 Sem Hr
 - b. Human Relations, in addition to "c" under Industrial Supervision Certificate 9 to 12 Sem Hrs
 - c. Electives to fit individual needs, the number of courses is dependent on hours of appropriate course work previously completed Varied Sem Hrs
4. Any Delta College general requirements for Associate Degree completion Varied Sem Hrs

To obtain a list of suggested courses, contact a counselor.

INSTRUMENTATION TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Math 111 — Applied Algebra I	2
Math 112 — Applied Algebra II	2
Math 106 — Elementary Slide Rule	1
Dr 105 — Industrial Drafting	3
Eln Tech 111 — Fundamentals of DC Circuits	4
Eln Tech 115 — Electronic Devices	2
PE — Elective — Activity	1
	15

Second Semester

Math 113 — Applied Trigonometry I	2
Math 114 — Applied Trigonometry II	2
Math 116 — Slide Rule	1
Eln Tech 112 — Fundamentals of AC Circuits	3
Eln Tech 116 — Electronic Devices and Circuits	2
Mech Tech 213 — Machine Tools	3
Mech Tech 220 — Introduction to Fluid Power	3
PE — Elective — Activity	1
	17

Third Semester

Math 211 — Applied Calculus	5
Eln Tech 213 — Solid State Devices	3
Eln Tech 241 — AC and DC Machines and Controls	2
Phys 111 — General Physics	4
Eng 111 — Freshman Composition	3
	17

Fourth Semester

Eln Tech 214 — Design of Electronic Circuits	4
Eln Tech 215 — Electronic Control and Automation	4
Eln Tech 252 — Basic Industrial Instrumentation	4
Math 147 — Introduction to Digital Computing	2
Electives	3,4
	17,18

Fifth Semester

Dr 216 — Electrical Drafting	2
Eln Tech 231 — Electronic Fabrication	3
Speech 112 — Principles of Public Speaking	3
Econ 111 — Principles of Economics	3
Pol Sci 103 — Introduction to American Government	3
Eng 113 — Technical Writing	3
	17

MECHANICAL DESIGN TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Dr 105 — Industrial Drafting	3
Math 111 — Applied Algebra I	2
Math 112 — Applied Algebra II	2
Math 106 — Elementary Slide Rule	1
Mech Tech 111 — Manufacturing Processes	3
Mech Tech 213 — Machine Tools	3
Eng 111 — Freshman Composition	3
	17

Second Semester

Dr 106 — Industrial Drafting	3
Math 113 — Applied Trigonometry	2
Mech Tech 214 — Advanced Machine Tools	3
Phys 101 — General Physics	5
Eng 113 — Technical Writing	3
	16

Third Semester

Dr 256 — Descriptive Geometry	3
Mech Tech 250 — Electronic Mechanics	3
Eln Tech 235 — Electrical Circuits	4
Pol Sci 103 — Intro to American Government	3
PE — Elective — Activity	1
	14

Fourth Semester

Dr 257 — Advanced Industrial Drafting	3
Mech Tech 205 — Basic Kinematics	3
Mech Tech 220 — Introduction to Fluid Power	3
Mech Tech 221 — Materials and Metallurgy	3
Psy 101 — Applied Psychology	3
PE — Elective — Activity	1
	16

MECHANICAL ENGINEERING TECHNOLOGY CURRICULUM

Associate Degree Program

First Semester	Sem Hrs
Dr 105 — Industrial Drafting	3
Math 111 — Applied Algebra I	2
Math 112 — Applied Algebra II	2
Math 106 — Elementary Slide Rule	1
Mech Tech 111 — Manufacturing Processes	3
Eng 111 — Freshman Composition	3
PE — Elective — Activity	1
	15

Second Semester

Dr 106 — Industrial Drafting	3
Math 113 — Applied Trigonometry	2
Math 115 — Statistics	2
Math 116 — Slide Rule	1
Phys 101 — General Physics	5
Mech Tech 213 — Machine Tools	3
	16

Third Semester

Mech Tech 251 — Mechanics	3
Psy 101 — Applied Psychology	3
Mech Tech 221 — Materials and Metallurgy	3
Eng 113 — Technical Writing	3
Mech Tech 220 — Introduction to Fluid Power	3
PE — Elective — Activity	1
	16

Fourth Semester

Mech Tech 205 — Basic Kinematics	3
Mech Tech 252 — Strength of Materials	3
Mech Tech 256 — Machine Design	3
Eln Tech 235 — Electrical Circuits	4
Pol Sci 103 — Intro to American Government	3
	16

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Certificate Program

First Semester	Sem Hrs
RC 101 — Construction Print Interpretation	3
RC 102 — Building Materials	4
RC 103 — Framing Square	5
RC 104 — Construction Laboratory I	2
	14

Second Semester

RC 105 — Building Site Surveying	5
RC 106 — Concrete Slab Work	4
RC 107 — Footings and Foundations	5
	14

Third Semester

RC 201 — Rough Framing and Outside Finishing	5
RC 202 — Building Materials Estimation	3
RC 203 — Construction Laboratory II	5
	13

RESIDENTIAL CONSTRUCTION TECHNOLOGY

Associate Degree Program

First Semester	Sem Hrs
RC 101 — Construction Print Interpretation	3
RC 102 — Building Materials	4
RC 103 — Framing Square	5
RC 104 — Construction Laboratory I	2
Pol Sci 103 — Intro to American Government	3
	17

Second Semester

RC 105 — Building Site Surveying	5
RC 106 — Concrete Slab Work	4
RC 107 — Footings and Foundations	5
Eng 111 — English Composition	3
	17

Third Semester

RC 201 — Rough Framing and Outside Finishing	5
RC 202 — Building Materials Estimation	3
RC 203 — Construction Laboratory II	5
Eng — Elective	3
PE — Elective — Activity	1
	17

Fourth Semester

RC 204 — Inside Finishing and Hardware	5
Rc 205 — Cabinet Making and Millwork	5
RC 206 — Electrical-Mechanical-Plumbing Equipment	3
Psy 101 — Applied Psychology	3
PE — Elective — Activity	1
	17



COURSE DESCRIPTIONS

Courses in a particular subject field are distinguished by identifying numbers and course titles. The credit value of each course is indicated in semester hours following the title of the course.

The course numbering system is as follows:

1. Courses numbered below 100 carry service credit only, not college credit, and are usually not transferrable to other colleges.
2. Courses numbered above 100 are college credit courses; however, not all such courses are applicable to baccalaureate degree programs. (See Program of Study Section.)

3. Courses numbered above 200 are intended chiefly for sophomores but may be elected by freshmen in some cases.

4. The 290-299 courses designate specific projects rather than specific courses.

291 — Independent Study-Special study on an independent basis.

292 — Travel — Foreign and Domestic.

293 — Special Projects or Topics — Offered as a regular class to more than one student.

294 — Seminar — Offered as a regular class to more than one student. (Numbers 293 and 294 appear on the schedule of classes for a given semester.)

295 through 299 are assigned to a given course as the need arises.

Those courses which have definite prerequisites are so indicated, otherwise there is no prerequisite.

The first number in parentheses following the course description indicates the number of lecture hours per week, and the second number indicates the number of laboratory hours per week.

Most of the courses listed will be offered during a complete academic year. A schedule of classes is issued in March for the following Spring and Fall semesters, and in October for the following Winter semester.

If the student needs additional information regarding courses or transfer credit he should consult his adviser or the Student Services Office.

Subject matter groupings under each division are arranged in alphabetical order as follows:

Business Division

Accounting
Business Machines
Cooperative Education
Data Processing
Distributive Education
General Business
Real Estate
Secretarial Science

English Division

Health, Physical Education and

Recreation Division

Activity Courses
Theory Courses

Humanities Division

Art
Languages
French
German
Russian
Spanish
Library Science
Music
Philosophy
Radio-Television
Speech

Mathematics Division

Nursing Division

Allied Health Programs

Dental Assistant
Health Science
Radiologic Technology

Science Division

Agriculture
Aviation
Basic Science
Biology
Chemical Technology
Chemistry
Fire Protection
Geography
Geology
Physical Science
Physics

Social Science Division

Economics
History
Law Enforcement
Political Science
Psychology
Sociology

Technical Division

Architecture
Automotive
Drafting
Electronics
Industrial Supervision
Mechanical
Residential Construction

BUSINESS DIVISION

Division Chairman — Dale F. Keyser, Associate Professor

Professor

Aline A. Lynch

Associate Professor

Richard J. Ferrando
Floyd A. Feusse
Francis B. Gainey
Peggy E. Hammontree
Isaac W. J. Keim, III
Robert N. Lees
Marjorie M. Leeson
Dennis E. McNeal

Assistant Professor

Robert M. Boeke
James A. Christensen
William R. Hieber
Carol A. Jacobs
Donna M. McCloy
Donald J. Muller
Richard F. Niemann
Lois W. Sears
Mary E. Smith

Instructor

Richard J. Howden
Betty J. Roberts
Rhosan D. Stryker
Iva W. Ware



ACCOUNTING

Acct 111 (01111) Introductory Accounting 4 Sem Hrs

Introduces concepts of accounting as related to the double entry process of recording data in various journals, posting to general and special ledgers, preparation of worksheet and periodic financial statements. Elements studied are assets, liabilities, proprietorship, income, expense, depreciation. Accruals, deferrals, and adjustments are also covered. Completion of a practice set is required. (4-0)

Acct 112 (01112) Introductory Accounting 4 Sem Hrs

Prerequisite: Accounting 111. Includes the voucher system; payroll, partnership formation and procedures; corporate formation, records, surplus, dividends, stocks and bonds. (4-0)

Acct 113 (01113) Social Security and Payroll Accounting

2 Sem Hrs

Prerequisite: Accounting 111 or Accounting 211. Considers Federal Social Security laws and State Unemployment Compensation laws as applied to business. Automated payroll machines and systems are introduced. A brief survey of other Michigan tax laws is included. (2-0)

Acct 211 (01211) Principles of Accounting 4 Sem Hrs

Prerequisite: None. Introduces the functions of accounting, data accumulation, the concept of the accounting cycle, and the basic procedures for recording business data. A study of the accrual concept and related documents, formation of a corporation, the single proprietorship and partnership, the measurement of earnings, and the control of data. (4-1)

Acct 212 (01212) Principles of Accounting 4 Sem Hrs

Prerequisite: Accounting 211. A study of earnings determination, assets and liability valuation, and internal accounting for management. Topics studied are: cash and cash control, receivables and sales revenue, investments, inventories and cost of goods sold, plant and intangible assets, corporation bonds, appraising and controlling departmental operations, basic cost concepts and systems for accumulating costs, incremental analysis, capital expenditure decisions, budgeting, funds flow, cash flow, subsidiary ledgers, voucher system, single proprietorships and partnerships. (4-1)

Acct 213 (01213) Cost Accounting 3 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Relates principles and methods of handling materials, labor costs, and manufacturing expenses to the formulation of reports to management. Includes job order, process, and standard direct costing procedures. A job order practice set is completed. (3-0)

Acct 214 (01214) Advanced Cost Accounting 3 Sem Hrs

Prerequisite: Accounting 213. Emphasis on the role of cost and profit data as applied to the decisions of management. Subjects treated: Estimated cost, budgetary control and flexible budgets, analysis and control of distribution costs, cost-profit-volume analysis, differential cost analysis, return on capital employed, and pricing policies. (3-0)
Note: Senior colleges may prefer to have their accounting majors take this advanced course at their institutions.

Acct 215 (01215) Federal Tax Accounting 3 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Studies the Federal Income Tax law. Emphasis is placed on the application to the individual and the single proprietorship business, although some references are made to the corporation. The individual tax return is prepared. (3-0)

Acct 217 (01217) Auditing Theory and Procedure 3 Sem Hrs

Prerequisite: Accounting 112 or Accounting 212. Surveys principles and procedures of auditing; attention is given to auditing concepts, professional ethics and responsibility, the audit program, auditing procedures, working papers, and simple audit reports. Completion of an integrated case study which involves the preparation of the working papers and the report for a complete audit is required. (3-0)

Acct 223 (01223) Intermediate Accounting 4 Sem Hrs

Prerequisite: Accounting 212 or permission of Division Head. Added development of accounting knowledge previously gained in introductory courses. Scope of material covered: correction of prior year's earnings, stock options and splits, basic accounting assumptions, internal control, limits on credit, inventory adjustments, and matters relevant to investments in stock. (4-0)

Acct 224 (01224) Intermediate Accounting 4 Sem Hrs

Prerequisite: Accounting 223. Material coverage relates to appraisal methods for fixed and intangible assets, operating reserves, ratio analysis, operations analysis, working capital and cash flow statements, quasi-reorganization, tax allocation, and the impact of inflation on financial statements. (4-0)

Acct 290-299 (01290-01299) Special Problems in Accounting (See Page 55)

BUSINESS MACHINES

Bus Mach 170 (17170) Beginning Typewriting 1 Sem Hr
A 7½-week course including mastery of the typewriter keyboard — letters, numbers, symbols — by the touch system. Provides a brief introduction to tabulations, manuscripts and business letters. (1-1)

Bus Mach 171 (17171) Beginning Typewriting 1 Sem Hr
A course in beginning typewriting for students who already know the keyboard. This course will include development of speed and skill in producing business letters, manuscripts, outlines, tabulation, word division and centering skills. (Class meets for 7½ weeks.) (1-1)

Bus Mach 172 (17172) Intermediate Typewriting 3 Sem Hrs
Prerequisite: Business Machines 171 or its equivalent. Vocational training for business. May be taken for personal use. Development of accuracy and speed in typing business and personal letters, rough drafts, manuscripts, outlines, tabulations, and simple business forms. Introduction to duplicating processes. (3-0)

Bus Mach 175 (17175) Machine Calculation 2 Sem Hrs
Prerequisite: Proficiency in arithmetic. Deals with the basic operations of calculators, electronic calculators, printing calculators, key-driven calculators, ten-key and full-key adding-listing machines. (2-1)

Bus Mach 176 (17176) Machine Calculation 2 Sem Hrs
Prerequisite: Business Machines 175. A continuation of Business Machines 175, with emphasis placed on vocational efficiency and speed of manipulation on the various calculators and printing calculators. (2-1)

Bus Mach 273 (17273) Advanced Typewriting 3 Sem Hrs
Prerequisite: Business Machines 172 or its equivalent. Vocational training is stressed. Emphasis is placed on developing excellence and refinement of vocational skills and office production jobs. Provides practice in typing communications used in differing professional and business fields. (3-0)

Bus Mach 274 (17274) Voice Transcription and Copying Machine Procedures 2 Sem Hrs
Prerequisite: Business Machines 172 or its equivalent. Provides: (1) Training in the skillfull operation of voice transcription machines such as Dictaphone and IBM Executary; (2) Survey of copying machines, with practice in the preparation of materials, and operation of several commonly used machines. (2-2)

Bus Mach 290-299 (17290-17299) Special Problems in Business Machines
(See Page 55)

COOPERATIVE EDUCATION

Coop Ed 121 (05121) Cooperative Office Education 3 Sem Hrs
Prerequisite: Employable skill and consent of coordinator. Places the student in a school or business office for supervised, on-the-job experience. Evaluations are made by the employer and the coordinator. Class meets with the coordinator one hour each week. Term paper and/or project reports required of each student. (1-15)

Coop Ed 122 (05122) Cooperative Office Education 3 Sem Hrs
Prerequisite: Cooperative Education 121. A continuation of Cooperative Education 121, with additional responsibilities at the work station. Term paper or project reports required of each student. (1-15)

Coop Ed 125 (05125) Cooperative Distributive Education 3 Sem Hrs
Prerequisite: Employable skill and consent of coordinator. Places the student in a distributive occupation for supervised, on-the-job experience. Evaluations are made by the employer and the coordinator. Class meets with the coordinator one hour each week. Term paper and/or project reports required of each student. (1-15)

Coop Ed 126 (05126) Cooperative Distributive Education 3 Sem Hrs
Prerequisite: Cooperative Education 125. A continuation of Cooperative Education 125, with additional responsibilities at the work station. Term paper or project reports required of each student. (1-15)

Coop Ed 221 (05221) Cooperative Office Education 3 Sem Hrs
Prerequisite: Cooperative Education 122. A continuation of Cooperative Education 122, with the introduction of new duties or responsibilities; additional research is done. (1-15)

Coop Ed 222 (05222) Cooperative Office Education 3 Sem Hrs
Prerequisite: Cooperative Education 221. A continuation of Cooperative Education 221, with added duties or responsibilities; further research. (1-15)

Coop Ed 225 (05225) Cooperative Distributive Education 3 Sem Hrs
Prerequisite: Cooperative Education 126. A continuation of Cooperative Education 126, with the introduction of new duties or responsibilities; more research is done. (1-15)

Coop Ed 226 (05226)**Cooperative Distributive Education**

3 Sem Hrs

Prerequisite: Cooperative Education 225. Continuation of Cooperative Education 225, with added duties or responsibilities; further research. (1-15)

Coop Ed 290-299 (05290-05299)**Special Problems in Cooperative Education**

(See Page 55)

DATA PROCESSING**Data Proc 133 (07133) Introduction**

3 Sem Hrs

Prerequisite: None. Provides a basic orientation to the field of computers and their usage. Scope of the course includes the basic concepts of data processing through study of unit record and computerized systems. The history, hardware and software, internal storage, input and output devices, and the characteristics of languages for third generation computers are studied. Programs and an independent project are written, compiled and tested on RPG on an IBM 360-40. (3-1)

Data Proc 134 (07134)**Data Processing Machine Operation**

3 Sem Hrs

Prerequisite: Data Processing 133. The major emphasis will be on console operation procedures for the 360-40 computer and the operation of unit record equipment. The student will wire control panels for the collator, interpreter, reproducer, and accounting machine. Since procedures and data flow will be stressed, additional job applications will be run by the students which emphasize utilization of manuals, job documentation, and control. (3-1)

Data Proc 179 (07179) Key Punching and Verifying

2 Sem Hrs

Prerequisite: Business Machines 171, or equivalent. Builds skill in key punching and verifying the punch card. Students who successfully complete the course will have sufficient knowledge to do productive work on the key punch and verifier. A background in terminology and use of the punched card is provided. (2-2)

Data Proc 235 (07235) Data Processing Applications

3 Sem Hrs

Prerequisite: Data Processing 133. A study of data processing systems and procedures involving analysis of various existing data processing applications in business and industry. Includes a study of integrated or total management information and data processing systems. Emphasis is given to developing detailed procedures in various areas of management. The course is designed to study the three phases necessary: Analysis or present information flow; System specification

and equipment; Implementation and documentation of the system. (3-0)

Data Proc 239 (07239)**Basic Assembler Language for IBM 360/370**

3 Sem Hrs

Prerequisite: Data Processing 133. The early portion of the class will deal with the primary machine instructions, their usage and basic rules. The major portion of the course will concern itself with programming, programming techniques, writing and testing typical BAL applications, correlation with other 360 languages and how BAL instructions are generated. (3-0)

Data Proc 243 (07243)**Report Program Generator Programming**

3 Sem Hrs

Prerequisite: Data Processing 133. File, input, calculation and output specifications statements for reporting and routine accounting applications will be covered. Programs will be written, compiled, and tested. (3-0)

Data Proc 245 (07245) COBOL Programming

3 Sem Hrs

Prerequisite: Data Processing 133. The early part of the course will include the advantages of COBOL, its strength, potential applications, and basic rules. The major portion of the course will concern itself with programming, compiling, and testing typical applications. (3-0)

Data Proc 246 (07246) PL/I Programming

3 Sem Hrs

Prerequisite: Data Processing 133. The early part of the course will include the advantages of PL/I, potential applications and basic rules. The major portion of the course will concern itself with programming, compiling, and testing typical applications. (3-0)

Data Proc 250 (07250) Data Processing Management

3 Sem Hrs

Prerequisite: None. Course covers contemporary problems in data processing management. Scope of the course will include the selection and training of data processing personnel, areas of responsibility in data processing, program controls, selection of services and equipment, and standards of documentation. (3-0)

Data Proc 251 (07251) Systems Analysis and Design

3 Sem Hrs

Prerequisite: Data Processing 133. It is also essential that the student has a good understanding of both accounting and programming. Suggested: Data Processing 250. Course covers the fundamental concepts of designing a system to effectively utilized data and to facilitate the functions of management. A case study will be used to illustrate the design, implementation, and documentation of a system. (3-0)

Data Proc 290-299 (07290-07299) Special Problems in Data Processing

(See Page 55)

DISTRIBUTIVE EDUCATION

Dist Ed 141 (09141) Transportation and Traffic Management

3 Sem Hrs

Prerequisite: None. Provides information, practice, and techniques necessary to qualify for position on the Traffic Management Divisions of larger industry and carrier companies. Covers history of American transportation systems, developments leading to Federal regulation of carriers other than railroad, classification of freight rates and tariffs, shipping documents, and their application in freight claims. (3-0)

Dist Ed 142 (09142) Transportation and Traffic Management

3 Sem Hrs

Prerequisite: Distributive Education 141. Deals with tariff circulars, construction and filing of tariffs, freight rates and tariffs, terminal facilities and switching, demurrage, transit privileges, warehousing and distribution, materials handling and packaging. (3-0)

Dist Ed 143 (09143) Advertising

3 Sem Hrs

Prerequisite: General Business 153. Stresses the manifold goals of advertising and its role in a marketing communications program as needed by tomorrow's professional managers. An appreciation of the rationale and strategies behind advertising campaigns is presented. (3-0)

Dist Ed 145 (09145) Sales

3 Sem Hrs

Prerequisite: None. Brings the marketing concept into sales education. Information on psychology, sociology, economics, and communications is employed in a contemporary concept of salesmanship. (3-0)

Dist Ed 241 (09241) Transportation and Traffic Management

3 Sem Hrs

Prerequisite: One semester of Transportation and Traffic Management or consent of Division Chairman. Includes through routes and rates, milling in transit, technical tariff and rate interpretation, overcharges and undercharges, losses and damages, and a review of decisions of the Interstate Commerce Commission. (3-0)

Dist Ed 242 (09242) Transportation and Traffic Management

3 Sem Hrs

Prerequisite: Transportation and Traffic Management 241 or consent of Division Chairman. Includes evaluation of the Interstate Commerce Act, its interpretation and application, procedures and practice before the Interstate Commerce Commission, Statutory authority for awarding damages, and a review of the Interstate Commerce Commission. (3-0)

Dist Ed 243 (09243) Marketing

3 Sem Hrs

Prerequisite: General Business 153. Provides an understanding and interpretation of the marketing system and its importance in the economy and the place of the marketing function in business management. The marketing framework is established and a basic understanding of the processes, functions, and channels is presented. Role of the Government in marketing procedure is emphasized. (3-0)

Dist Ed 245 (09245) Principles of Management

3 Sem Hrs

Prerequisite: General Business 153. Designed to train students in the analysis of management problems and the synthesis of solutions. Theories of management practices are discussed and fundamentals of administrative, executive, and staff management explained. Emphasis is placed on preparation of information required for decision making. (3-0)

Dist Ed 247 (09247) Retailing

3 Sem Hrs

Prerequisite: General Business 153. Investigates methods used by retail businesses to plan the marketing of merchandise in relation to time, place, quantities, and price. The importance of advertising, sales promotion, layout and display, accounting procedures and controls, use of financial data and human resources is recognized. (3-0)

Dist Ed. 253 (09253) Applied Marketing Strategies — A Case Study Approach

3 Sem Hrs

Prerequisite: Distributive Education 243 or permission of instructor. A case study approach designed to give students experience in the development and implementation of marketing strategies as they apply to real life business situations. All major areas of marketing such as retailing, industrial sales and distribution, and sales and advertising promotional activities will be involved. The relationship that each area has individually and collectively to each case study presented will be incorporated into the student's problem solving experiences. (3-0)

Dist Ed 290-299 (09290-09299) Special Problems in Distributive Education

(See Page 55)

GENERAL BUSINESS

Gen Bus 110 (12110) Business Computations 3 Sem Hrs

Prerequisite: Math 91 if mathematics placement test score is unsatisfactory. Course covers many of the principles necessary to an understanding of the math of the business world. Includes various methods of computing interest and bank discounts; installment buying; F.I.C.A., Federal Income Taxes and other payroll deductions; markup, cost and selling prices; various wage payment systems; depreciation; sales and property taxes, insurance; measures of central tendency. (3-0)

Gen Bus 151 (12151) Business Communications 3 Sem Hrs

Prerequisite: Business Machines 171 or its equivalent, or Business Machines 171 taken concurrently. Teaches principles of effective oral and written communications. Practice provided in letter writing, preparation of management message, compilation and completion of job applications, communications by telephone and wire, techniques of dictating, courteous interchange of thought. (3-0)

Gen Bus 152 (12152) Business Communications 3 Sem Hrs

Prerequisite: General Business 151. Studies the influence of oral and written communication upon human relations in business, and applies effective methods that may be used. Emphasis placed on tone, form, accuracy, clarity, appeal and psychology in writing letters and reports. Designed also for increasing the business vocabulary, and understanding current business literature. (3-0)

Gen Bus 153 (12153) Introduction to Business 3 Sem Hrs

Prerequisite: None. Clarifies the role of business in modern society. The significant relationships which exist between business and the social, political and economic environment are stressed. The interconnection between business and other institutions in our environment is emphasized. (3-0)

Gen Bus 157 (12157) Filing and Records Management 3 Sem Hrs

Prerequisite: None. Emphasis is placed on practical application of the basic rules of filing in alphabetic, numeric, geographic, and subject filing systems. Includes also a study of the complete records cycle, procedures for operation and control of filing methods and records, selection of equipment and supplies, supervision of personnel, and an understanding and awareness of the increasingly important area of records management. (3-0)

Gen Bus 251 (12251) Business Law 3 Sem Hrs

Prerequisite: None. Introduces the court system; a study of contracts, agency, employment, personal property, and bailments. (3-0)

Gen Bus 252 (12252) Business Law 3 Sem Hrs

Prerequisite: General Business 251 or consent of the Chairman of the Business Division. A study of corporations, real property, negotiable instruments, sales, security devices, and trusts and estates. (3-0)

Gen Bus 255 (12255) Office Administration 3 Sem Hrs

Prerequisite: General Business 151 and General Business 153. Presents the principles of office supervision together with concepts of planning, organizing, motivating, and controlling. Recognition is given to the role of human relations in effecting efficient harmonious activities. (3-0)

Gen Bus 256 (12256) Personnel Management 3 Sem Hrs

Prerequisite: General Business 255 or permission of instructor. Covers the role of personnel administration in large and small organizations. Develops techniques for hiring, training, developing, motivating, and evaluating of personnel. Covers wage and salary and fringe benefit administration. (3-0)

Gen Bus 290-299 (12290-12299) Special Problems in General Business

(See Page 55)

INTERIOR DECORATION

Inter Decor 100 (10100)

Introduction to Interior Decoration 3 Sem Hrs

Concepts of color and use of the color wheel coordinated with various styles and types of wallpaper, fabrics, draperies, carpeting, kitchen planning, home lighting, room arrangements, furniture style identification — proper techniques of mixing and matching; field trips; for the student's personal utilization as well as entry level and in-service training for professional use. (3-0)

Inter Decor 290-299 (10290-10299) Special Problems in Interior Decoration

(See Page 55)

REAL ESTATE

RE 181 (03181) Real Estate Principles I

3 Sem Hrs

Prerequisite: None. This fundamental course is planned to provide a general overview of real estate to those persons contemplating entering the business. Content will include scope and organization, economics, legal aspects, the nature of real property, ownership, and property rights. Approved for G.R.I. I. (3-0)

RE 182 (03182) Real Estate Principles II

3 Sem Hrs

Prerequisite: Real Estate 181 or field experience. This course is a continuation of Real Estate 181 designed as a general knowledge course for those entering the profession, as well as those presently in the business who do not have formal training in real estate. Considers financing, brokerage, future trends, and property evaluation. Approved for G.R.I. II. (3-0)

RE 183 (03183) Real Estate Procedure

3 Sem Hrs

Prerequisites: Real Estate 181 and Real Estate 182 (Real Estate 182 and Real Estate 183 may be taken concurrently). The student will study day-to-day operations in real estate roles and brokerage, including listing, prospecting, advertising, closing, sales techniques, escrow and ethics. This course covers much of the material required in the broker's exam. (3-0)

RE 281 (03281) Real Estate and Government

3 Sem Hrs

Prerequisites: Real Estate 181 and Real Estate 182. The effect of government regulations upon real estate will be covered in detail, as well as open housing, urban renewal, pollution, and zoning. The course will also cover real estate associations such as the National Association of Real Estate Boards, National and Multiple Listings Services, National Association of Home Builders, and others. (3-0)

RE 282 (03282) Real Estate Finance

3 Sem Hrs

Prerequisites: Real Estate 181 and Real Estate 182. Regulations and procedures for financing real estate; types of lenders; methods of qualifying for loans; uses of mortgages, trust deeds, leases, mathematics of real estate finance and financial analysis of real properties. (3-0)

RE 283 (03283) Real Estate Appraisal

3 Sem Hrs

Prerequisites: Real Estate 181 and Real Estate 182. Residential appraisal, principles of real estate valuations, cost market data, summation and sales analysis, methods of appraising, estimating, current trends and techniques, single and multiple family dwellings, vacant land. Actual field experience is included. (3-0)

RE 290-299 (03290-03299) Special Problems in Real Estate
(See Page 55)

SECRETARIAL SCIENCE

Sec Sci 161 (15161) Beginning Shorthand

4 Sem Hrs

Prerequisite: None. Theory of Gregg Shorthand, Diamond Jubilee Method. Includes development of skill in reading, intensive study of brief forms, writing of practiced and new materials, pre-transcription training. Laboratory assignments required. (4-1)

Sec Sci 162 (15162) Intermediate Shorthand

4 Sem Hrs

Prerequisites: Secretarial Science 161 and Business Machines 171, or equivalents. Must be accompanied by Business Machines 172 or 273. Designed to increase speed in taking new-matter dictation. Builds transcription skills, includes English, grammar review, vocabulary study, and spelling. Laboratory assignments required. (4-1)

Sec Sci 165 (15165) Orientation to

Medical Office Work

1 Sem Hr

Prerequisite: None. Basic information about medical assistant opportunities and responsibilities. Medical terminology is introduced. (1-0)

Sec Sci 166 (15166) Orientation to

Community Health Services

1 Sem Hr

Prerequisite: None. Introduction to the public and private agencies closely allied with work of the medical assistant. Study of medical terminology continued. (1-0)

Sec Sci 181 (15181) Beginning

Stenographic Machine Shorthand

4 Sem Hrs

Prerequisite: Business Machines 171 or its equivalent or consent of Division Chairman. Theory is presented through a system of phonetic writing employing the Stenograph machine, which imprints in English letters. Dictation given on practiced and new materials. The student should be able to take accurate notes at the rate of 60 to 80 words per minute. Transcription is introduced. (4-1)
Note: Additional stenographic machine shorthand courses will be added as needed.

Sec Sci 261 (15261) Secretarial Practices

3 Sem Hrs

Prerequisites: General Business 151 and Business Machines 172, or consent of Division Chairman. Broadens the secretary's concept of management in business. Attention given to developing an acceptable secretarial personality. Augments knowledge and skill in working with people, and in handling information in the areas of correspondence and reports, communications, calculating, mailing, filing. Related work assignments required. (3-0)

Sec Sci 263 (15263)**Dictation and Transcription**

4 Sem Hrs

Prerequisite: Secretarial Science 162. Emphasizes speed and accuracy in transcribing mailable letters. Extends the development of writing speeds on new-matter dictation. Introduces special techniques in handling office dictation. Laboratory assignments required. (4-0)

Sec Sci 264 (15264) Speed Building and**Specialized Shorthand**

3 Sem Hrs

Prerequisite: Secretarial Science 263 or consent of Division Chairman. Students are expected to attain high speed in taking and transcribing dictation. Offers specialized vocabularies and materials in the chemical, legal, medical, reporting, and technical fields, according to career interest of the student. Laboratory assignments required. (3-0)

Sec Sci 265 (15265) Nursing Arts

3 Sem Hrs

Prerequisite: Secretarial Science 165 and 166, and one course in Biology, or consent of Chairman of the Business Division. Designed to provide knowledge and skills which will enable the medical assistant to work cooperatively and efficiently with the doctor, members of staff, patients; to train the student in simpler techniques of nursing so that she may assist the doctor; to provide an appreciation of medical care so that she may interpret accurately to the public and health professions in her community. (3-1)

**Sec Sci 266 (15266) Orientation to
the Medical Laboratory**

3 Sem Hrs

Prerequisite: Secretarial Science 265, or consent of the Division Chairman. Lectures, demonstrations, and laboratory experience to familiarize the student with laboratory procedures commonly used in the medical office. Emphasis on terminology used in reporting findings; mixing and standardizing common solutions and reagents. An acquaintanceship with micro-biology and bacteriology; qualitative urinalysis, hematology, microscopical examination of smears and sediments, EMR and EKG determinants. (3-1)

Sec Sci 290-299 (15290-15299) Special Problems in Secretarial Science

(See Page 55)

ENGLISH DIVISION

Division Chairman — Maurice S. Alberda, Associate Professor

Associate Professor

Brendan R. Cahill
Pauline K. Drumm
Genevra H. Grossman
Otto E. Henning
Dr. Leticia S. Molter
Alice B. Ziegler

Assistant Professor

John F. Augustine
Dana E. Blackwell
Michael A. DeCarbo
Gerald V. Ellison
Joan B. Gronewold
Gerald L. Hall
Donald B. Halog
William C. Harman
Mitchell H. Jarosz
Martha J. Keil
Stephen Marcus
James M. McGinty
Fred W. Renker, Jr.
Charlotte W. Seiler

Instructor

Thomas M. Gavin
David S. Habercom
Antonio Marquez
Charles R. Radey
Elizabeth Redington
Gary B. Roelofs
Renee R. Smith
Leroy J. Spiller

Eng 72 (20072) Improvement English

4 Hrs Service Credit

Prerequisite: None. Fundamentals of written composition are practiced. Content and organization of themes, vocabulary, spelling, sentence structure and paragraphing are included with orientation to needs of the student (4-0)

**Eng 81 (20081) English as a
Second Language**

4 Hrs Service Credit

Prerequisite: None. A practical study of English to develop the reading, writing, understanding, and speaking competency of foreign speaking students. The course serves as preparation for English 111 and English 112. (4-0)

Eng 101 (20101) Contemporary English

5 Sem Hrs

Prerequisite: None. Instruction and experience in the skills of reading, writing, and oral communication with emphasis on practical use. Credit toward certain specified certificate programs. (5-0)

Eng 104 (20104) Techniques of Reading Comprehension

3 Sem Hrs

Reading skills necessary for college achievement will be presented and applied, with emphasis upon the development of vocabulary and comprehension of varied materials. Individual attention will be given to specific problems, however speed of reading will not be a primary concern. The credit hours may be counted toward total hours required for graduation but not toward fulfilling the English Composition requirement for any Associate Degree curriculum. (3-0)

Eng 110 (20110) Writing Techniques

2 Sem Hrs

Prerequisite: None. Offered in conjunction with specified sections of English 111. The course will provide special attention to particular problems and individual needs in written composition as determined in the coordinated English 111 section. The credit hours may be counted toward total hours required for graduation but not toward fulfilling the English Composition requirement for any Associate Degree Curriculum. (2-0)

Eng 111 (20111) Freshman Composition

3 Sem Hrs

Prerequisite: None. Development of competence in reading and writing with emphasis on various kinds of writing. (3-0)

Eng 112 (20112) Freshman Composition

3 Sem Hrs

Prerequisite: English 111. A continuation of English 111 with emphasis on reading literary selections as well as further practice in writing. (3-0)

Eng 113 (20113) Technical Writing

3 Sem Hrs

Prerequisite: English 111. Techniques for written presentation of technical material in formal and informal reports. The emphasis will be on general principles with specific applications in conjunction with technical courses or actual job experience. (3-0)

Eng 115 (20115) Basic Journalism Skills

2 Sem Hrs

Prerequisite: None. History and principles of journalism; introductory advertising, news gathering and reporting. Feature and editorial writing and the necessary skills needed in proof reading and editing are stressed. (2-0)

Eng 116 (20116) News Reporting

2 Sem Hrs

Prerequisite: None. Principles and practice of reporting for newspapers and other mass media. Study of history and ethics of journalism. (2-0)

Eng 124 (20124) Techniques of Rapid Reading

2 Sem Hrs

Prerequisite: Competency in the basic reading skills or English 104. The specialized procedures and methods that accelerate reading rate will be employed. Literal, critical, and effective comprehension skills will be developed through reading of fiction. The credit hours may be counted toward total hours required for graduation but not toward fulfilling the English Composition requirement for any Associate Degree Curriculum. (2-0)

Eng 211 (20211) Advanced Composition

3 Sem Hrs

Prerequisite: English 112. Instruction and practice in expository and argumentative writings based on the reading of literary selections. (3-0)

Eng 221 (20221) Introduction to Literature

3 Sem Hrs

Prerequisite: English 112. Designed to increase the student's appreciation of literature. Emphasis will be placed on readings in the short story and poetry. (3-0)

Eng 224 (20224) Popular Literature

3 Sem Hrs

Prerequisite: English 112 or permission of instructor. An examination of a particular body of popular literature, organized by the selection of material either from the works of one author or one genre (e.g. Science Fiction, Black Humor, War Novel, etc.). Course content to be announced each semester prior to registration. (3-0)

Eng 231 (20231) Modern Poetry

3 Sem Hrs

Prerequisite: English 112. A study of the background, the developments, and the current state of modern poetry, with emphasis on poems by American and British authors. (3-0)

Eng 241 (20241) Introduction to Mythology

3 Sem Hrs

Prerequisite: English 112. A study of the myths of Greece, Rome, and the Levant as they have appeared in *The Iliad*, *The Odyssey*, *The Metamorphoses*, *the Aeneid*, and *The Old Testament*, with emphasis on their relationship to modern literature. (3-0)

Eng 251 (20251) Children's Literature

4 Sem Hrs

Prerequisites: English 112 and speech course. A survey of literature for children in the elementary grades, aimed at developing techniques for using books with children, story telling, and the criteria for book selection. (4-0)

Eng 252 (20252) Creative Writing

3 Sem Hrs

Prerequisite: English 112 and permission of the instructor. Through analysis of various forms of writing and frequent compositions, the student is encouraged to develop writing skills according to his own interests and abilities. (3-0)

Eng 261 (20261) Dramatic Literature 3 Sem Hrs
Prerequisite: English 112. Designed to develop appreciation of dramatic literature, this course is concerned with nature, purpose, and methods of drama. Reading of representative plays from Shakespeare to the present. (3-0)

Eng 269 (20269) Native North American Literature 3 Sem Hrs
Prerequisite: English 112. A broad survey of the literature of North American Indians. Poems, dramas, and tales of various Indian tribes will be examined, as well as biographies and autobiographies of important Indian leaders. Some reading in secondary sources will be required to facilitate an understanding of the culture which produced the literature. (3-0)

Eng 271 (20271) American Literature 3 Sem Hrs
Prerequisite: English 112. Major movements and themes in American literature as they appear in the works of important authors from the Puritan period to and including the Age of Romanticism are studied. (3-0)

Eng 272 (20272) American Literature 3 Sem Hrs
Prerequisite: English 112. A continuation of English 271. Study of major movements and themes in American Literature from Walt Whitman through the Age of Realism and New Directions. (3-0)

Eng 274 (20274) Mexican-American Literature 3 Sem Hrs
Prerequisite: English 112 or the permission of the instructor. The course would provide an introduction to Mexican-American Literature, a survey of novels, short stories, plays, poems, essays, and autobiographies written by contemporary Mexican-American authors. Course would also examine the Mexican-American as portrayed in American Literature by such authors as John Steinbeck, Willa Cather, and Katherine Anne Porter. (3-0)

Eng 275 (20275) Afro-American Literature 3 Sem Hrs
Prerequisite: English 112. Survey course designed to develop and increase the student's awareness, understanding, and appreciation of Black literature. Students will examine works from various genres including: novels, autobiographies, plays, short stories, essays, and poems. (3-0)

Eng 276 (20276) Contemporary American Fiction (1945 to Present) 3 Sem Hrs
Prerequisite: English 112. A study of trends, techniques and themes in recent American fiction. The student will read, analyze, and criticize the works of such writers as Updike, Cheever, O'Connor, Baldwin, Ellison, Bellow, Salinger, Malamud, and Mailer. (3-0)

Eng 281 (20281) British Literature 3 Sem Hrs
Prerequisite: English 112. A survey of the major British authors and writings from Beowulf to the Romantic Revolt. The student will critically study such literary figures as Chaucer, Shakespeare, Milton, and their contemporaries. In addition, through several research papers, the student is expected to demonstrate a comprehension of the contemporaneous ideas expressed by these men and the literary forms evolved by them. (3-0)

Eng 282 (20282) British Literature 3 Sem Hrs
Prerequisite: English 112. This course continues the student's survey of major British authors from the Romantic Revolt to the present time. Included will be such literary figures as Wordsworth, Coleridge, Byron, Shelley, Keats, Browning, and Eliot. Once again, through critical research papers, the student will be expected to relate these authors with their times and their literary forms. (3-0)

Eng 290-299 (20290-20299) Special Problems in English
(See Page 55)

EDUCATION

Ed 100 (23100) Exploratory Teaching 3 Sem Hrs
A comprehensive survey of teaching — to help the student understand the everyday work of a teacher. One day a week will be spent in a school observing and aiding the teacher. Also, students meet for one hour a week for instruction on techniques, for assessment of their work, for information concerning career choices and for sharing their experiences with each other. (1-6)

HEALTH, PHYSICAL EDUCATION AND RECREATION DIVISION

Division Chairman — Lynn V. Conway, Associate Professor

Associate Professor
Barry D. Campbell
Charlotte A. Denman
Crawford E. Kennedy
Elanore M. Thompson

Assistant Professor
Patricia A. O'Toole
Richard W. Prentice
Paul D. Radlinski
James S. Still

Instructor
Jean S. Treadway

ACTIVITY COURSES

PE 101 (65101) Physical Fitness 1 Sem Hr
Fitness through the use of calisthenics and self-testing exercises. Physical Fitness tests will be given and individual improvement records kept. (0-2)

PE 102 (65102) Physical Conditioning Through Sports 1 Sem Hr
Conditioning through the use of selected sport activities. (0-2)

PE 111 (65111) Team Sports 1 Sem Hr
Coverage of two or more selected team sports in season selected from Physical Education 112 to Physical Education 118, inclusive. (0-2)

PE 112 (65112) Basketball 1 Sem Hr
Covers basic skills of passing, dribbling, shooting, and team play. Rules and strategy also included. (0-2)

PE 113 (65113) Field Hockey 1 Sem Hr
Rules, fundamental skills and team play in field hockey. (0-2)

PE 114 (65114) Soccer 1 Sem Hr
Basic skills in kicking, dribbling, heading, and positional play. Rules and strategy are included. (0-2)

PE 115 (65115) Softball 1 Sem Hr
Covers throwing, catching, batting, and base running, along with the rules of play. (0-2)

PE 118 (65118) Volleyball 1 Sem Hr
Basic skills of handling the ball, passing, setting, spiking, net-rebound play, and blocking. Rules and strategy are included. (0-2)

PE 122 (65122) Badminton 1 Sem Hr
Techniques and use of the various shots, along with rules and strategy. (0-2)

PE 123 (65123) Fencing 1 Sem Hr
An introduction to foil fencing, its basic fundamentals, techniques, rules, and safety measures. (0-2)

PE 125 (65125) Sports Judo 1 Sem Hr
Introduction to the rules, skills, and courtesies in sports judo as well as the special conditioning required. (0-2)

PE 126 (65126) Intermediate Sports Judo 1 Sem Hr
Prerequisite: Physical Education 125 or permission of the instructor. Continuing improvement of beginning techniques, additional throwing, groundwork, and combination throwing techniques taught. (0-2)

PE 127 (65127) Tennis 1 Sem Hr
An introduction to the basic strokes in tennis along with rules, strategy, and courtesies of the game. (0-2)

PE 128 (65128) Wrestling 1 Sem Hr
Covers special conditioning, take-downs, elementary holds, breaks, and plan as well as rules. (0-2)

PE 132 (65132) Archery 1 Sem Hr
Introduction to the basic skills in shooting, in target and field archery. (0-2)

PE 133 (65133) Bowling 1 Sem Hr
Fundamentals of starting stance, approach, and delivery. The use of both spot and pin bowling, courtesies, rules and method of scoring. Special student rates on alley fees. (0-2)

PE 134 (65134) Cross Country 1 Sem Hr
Techniques and conditioning for competitive distance running. Permission of instructor is required. (0-2)

PE 135 (65135) Golf 1 Sem Hr
Fundamentals in the use of woods, irons, and putter along with the rules and courtesies of the game. (0-2)

PE 136 (65136) Gymnastics 1 Sem Hr
Emphasis is placed on the fundamental skills of tumbling and apparatus work. (0-2)

PE 138 (65138) Track and Field 1 Sem Hr
Practice in various skills of running, hurling, jumping, vaulting, and weights. (0-2)

PE 139 (65139) Weight Training 1 Sem Hr
A systematic program of bodily development through repetitive weight training. (0-2)

- PE 141 (65141) Folk and Square Dancing** 1 Sem Hr
A course designed to introduce folk and square dancing of many countries. (0-2)
- PE 142 (65142) Modern Dancing** 1 Sem Hr
A course designed to teach the fundamentals of body movement and simple choreography. (0-2)
- PE 143 (65143) Social Dancing** 1 Sem Hr
This course involves basic dance steps of the Fox Trot, Waltz, Swing, Cha Cha, Rhumba, Samba, Tango. (0-2)
- PE 151 (65151) Beginning Swimming** 1 Sem Hr
A "learn to swim" course for beginners. Safety measures in swimming are stressed. (0-2)
- PE 152 (65152) Intermediate Swimming** 1 Sem Hr
Prerequisite: Physical Education 151 or consent of instructor. Skills in swimming the crawl, side stroke, elementary back and breast stroke. Safety measures and elementary forms of rescue. (0-2)
- PE 153 (65153) Advanced Swimming** 1 Sem Hr
Prerequisite: Physical Education 152 or consent of instructor. Improvement of strokes learned in Physical Education 152, along with the back stroke and elementary diving. (0-2)
- PE 154 (65154) Senior Life Saving** 1 Sem Hr
Prerequisite: Consent of instructor. Instruction in American Red Cross Senior Life Saving leading toward its certificate. (0-2)
- PE 155 (65155) Water Safety Instructor** 1 Sem Hr
Prerequisite: A current Senior Life Saving Certificate and the consent of the instructor. Instructions in the American Red Cross Water Safety Instructor Course leading toward its certificate.
- PE 156 (65156) Canoeing** 1 Sem Hr
Prerequisite: Ability to swim. Instruction in basic American Red Cross canoeing course. Involves one-day trips to nearby lakes and rivers. Usually six sessions of five hours each. Reduced student fees for canoe rentals. (0-2)
- PE 160 (65160) Beginning Skiing** 1 Sem Hr
Emphasis is placed on the fundamental skills. The student will be taught snowplow, snowplow turn, traversing, and stem turn. (0-2)
- PE 161 (65161) Intermediate Skiing** 1 Sem Hr
Prerequisite: None. Student will begin the transitions from steered turn to sliding turn. Side slipping, uphill christie and stem christie will be taught. (0-2)

PE 162 (65162) Advanced Skiing 1 Sem Hr
Prerequisite: None. Student will learn finer points of parallel skiing. Parallel christie, parallel with check, and short swing will be taught. (0-2)

PE 163 (65163) Ski Racing 1 Sem Hr
Basic fundamentals of racing slalom, giant slalom, and down-hill will be covered. (0-2)

PE 164 (65164) Ski Touring 1 Sem Hr
Emphasis is placed on fundamentals in cross country skiing. Students will be taught selection and care of equipment, rudimentary ski movements, step down, moving ahead over snow, controlling speed, half plow turn, poling, moving step down, kick, uphill, waxing for various temperatures, etc. (0-2)

PE 218 (65218) Advanced Volleyball 1 Sem Hr
Prerequisite: Physical Education 118 or permission of instructor. Continuing improvement of beginning skills and the addition of experience in advanced play (screw under step and pass, back and lateral set, spiking in detail, dink, attack, and soft blocking, and the dive and Japanese roll). Advanced strategies including offensive play patterns (4-0, 6-0, and switching) and defensive play patterns (middle back and middle up). Use of current USVBA rules. (0-2)

PE 242 (65242) Intermediate Modern Dance 1 Sem Hr
Prerequisite: Physical Education 142 or permission of instructor. Activities designed to improve strength, flexibility, rhythmic and spatial awareness, coordination, and locomotor movements. Approximately one-half of the course is devoted to elements of choreography and student composition. (0-2)

PE 243 (65243) Intermediate Social Dance 1 Sem Hr
Prerequisite: Physical Education 143 or permission of instructor. Covers intermediate level steps in the Fox Trot, Waltz, Swing, Cha Cha, Rhumba, Samba, and Tango, and introduces the Mambo. (0-2)

THEORY COURSES

PE 161 (67161) Introduction to Physical Fitness 2 Sem Hrs
A study of the profession of physical education, its background, basic principles, relationships to growth and mental health, and vocational opportunities. (0-2)

PE 162 (67162) Intramurals 2 Sem Hrs
Prerequisite: Physical Education 161 or permission of instructor. A study of the finances, facility utilization, organization and awards as they pertain to intramural programs is emphasized. (2-0)



PE 163 (67163) Officiating of Men's Sports 2 Sem Hrs
This course will cover the mechanics and rules governing the officiating of football and basketball. Open to male students. Students will have an opportunity to gain practical experience. (2-0)

PE 164 (67164) Athletic Training 2 Sem Hrs
Prerequisite: None. A course designed to provide the student with experiences and insight into the prevention, immediate treatment, and rehabilitation of injuries commonly sustained by participants in athletics. (2-0)

HE 165 (67165) First Aid and Safety 2 Sem Hrs
Study and practice in first aid treatment. Stress laid on prevention and safety measures. Student will pursue the standard and advanced first aid courses of the American Red Cross and will receive certificates upon successful completion of the course. (2-1)

PE 166 (67166) Teaching of Elementary Physical Education 2 Sem Hrs
A course for prospective teachers, which deals with the principles, methods, and materials of teaching physical education in elementary schools. (2-1)

RE 167 (67167) Recreation Leadership 3 Sem Hrs
A study of the techniques, methods, and materials for leadership in directing various recreational program activities in the areas of low organized games, social events, simple arts and crafts, dramatics, dance calling, and individual sports. (3-0)

HE 171 (67171) Health Education 3 Sem Hrs
Prerequisite: None. Foundation health science course, with special emphasis on personal, family, and community health. (3-0)

PE 180 (67180) Theory and Practice of Field Hockey for Women 2 Sem Hrs
The techniques, team play, and rules of field hockey. (2-0)

PE 182 (67182) Theory and Practice of Basketball for Women 2 Sem Hrs
The techniques, team play, and rules of basketball. (2-0)

PE 184 (67184) Theory and Practice of Volleyball for Women 2 Sem Hrs
Analysis and practice of techniques, team play, and rules of volleyball. This course is designed to give the major the necessary skill and planning background to teach volleyball. (2-0)

PE 186 (67186) Theory and Practice of Beginning Gymnastics for Women 2 Sem Hrs
Techniques and procedures for teaching beginning stunts, tumbling, and apparatus activities for the elementary and secondary program. (2-0)

HE 211 (67211) Basic Anatomy 3 Sem Hrs
Prerequisite: None. Open to second semester freshmen and sophomores. An introductory course in the structure and function of the human body with special emphasis on skeletal, nervous, circulatory, and respiratory systems. Serves as a foundation course for health and physical education majors. (3-0)

PE 212 (67212) Theory and Practice of Soccer 2 Sem Hrs
Prerequisite: None. To provide the prospective physical education teacher and/or coach with the history, techniques, fundamentals, equipment, methods of training, and methods of teaching soccer. (2-0)

PE 214 (67214) Officiating of Women's Sports for Women 2 Sem Hrs
Prerequisites: Physical Education 180, 182, and 184 or with permission of instructor. Rules and techniques of officiating field sports, basketball, and volleyball. (2-0)

HE 215 (67215) First Aid Instructors 2 Sem Hrs
Prerequisite: American Red Cross Advance Certificate, or permission of instructor. Methods of teaching first aid to the various age and ability levels. (2-0)

PE 216 (67216) Theory and Practice of Folk and Square Dance 2 Sem Hrs
Prerequisite: None. Analysis and practice of skills and techniques of representative folk and square dances. (2-0)

PE 218 (67218) Theory and Practice of Fundamental Movement for Women 2 Sem Hrs
Individual analysis of basic motor skills which are essential for efficient movement and physical fitness. (2-0)

PE 220 (67220) Theory and Practice of Modern Dance 2 Sem Hrs
Theory and practice of basic techniques and movement patterns for modern dance. (2-0)

PE 222 (67222) Advanced Techniques and Coaching of Field Hockey 2 Sem Hrs
Prerequisite: Physical Education 180. Advanced skills and strategy of field hockey, selection and preparation of a team. (2-0)

PE 236 (67236) Women's Advanced Gymnastics 1 Sem Hr
Development of intermediate and advanced level skills in women's gymnastics, with emphasis on teaching techniques and appropriate safety procedures. (0-2)

PE 247 (67247) Advanced Techniques and Coaching of Field Hockey 2 Sem Hrs
Prerequisite: Physical Education 180. Advanced skills and strategy of field hockey, selection and preparation of a team. (2-0)

HE, PE, RE 290-299 (65290-65299 & 67290-67299)
Special Problems in Health, Physical Education and Recreation
(See Page 55)

HUMANITIES DIVISION

Division Chairman — Gene R. Duckworth, Associate Professor

Associate Professor

Charles A. Breed
Loren E. Cady
Patricia C. Eggleston
James A. Leffew
Dr. Louis M. Sanker
Andrejs G. Straumanis

Assistant Professor

Richard C. Eskilsen
Sarah R. Gustin
Betty A. Holzschu
John W. McCormick
Richard A. McGaw
Murlene E. McKinnon
Robert M. Mee
Raymond Roberts
Russell L. Thayer

Instructor

Larry D. Butcher
Valerie J. Hullum

Television Staff

William Ballard, Director of Television and Station Manager
Mark D. Baldwin, Producer-Director
Thomas E. Haskell, Program Director
David E. Knope, Producer-Director
Leonard P. Marsico, Producer-Director
M. Anderson Rapp, Executive Producer
Guy Serumgard, Operations Manager

ART

Suggested Sequence for Art Majors

First Semester

Art 151 Art History and Appreciation
Art 111 Basic Freehand Drawing
Art 115 Basic Design — Two Dimensional

Second Semester

Art 152 Art History and Appreciation
Art 112 Advanced Drawing
Art 116 Basic Design — Three Dimensionsl

Third Semester

Art 210 Figure Drawing
Art 217 Painting
Art 222 Sculpture

Fourth Semester

Art 231 Basic Ceramics
Art 280 Printmaking

Note: All four-year colleges and universities now require comprehensive art portfolios for art major transfer students.

Art 105 (25105) Introduction to Art

2 Sem Hrs

Prerequisite: None. (Not open to art majors.) A studio and lecture course for the student desiring some practical experience with drawing, painting, and the basic procedures employed in artistic creation, as an aid to self-expression or for cultural reasons. (0-4)

Art 111 (25111) Basic Freehand Drawing

3 Sem Hrs

Prerequisite: None. A beginning course in drawing designed for all students interested in the fundamentals of visual form and analysis of structure. Representational treatment of simple objects, forms, and volumes in line, value, and texture with a variety of media. (0-6)

Art 112 (25112) Advanced Drawing

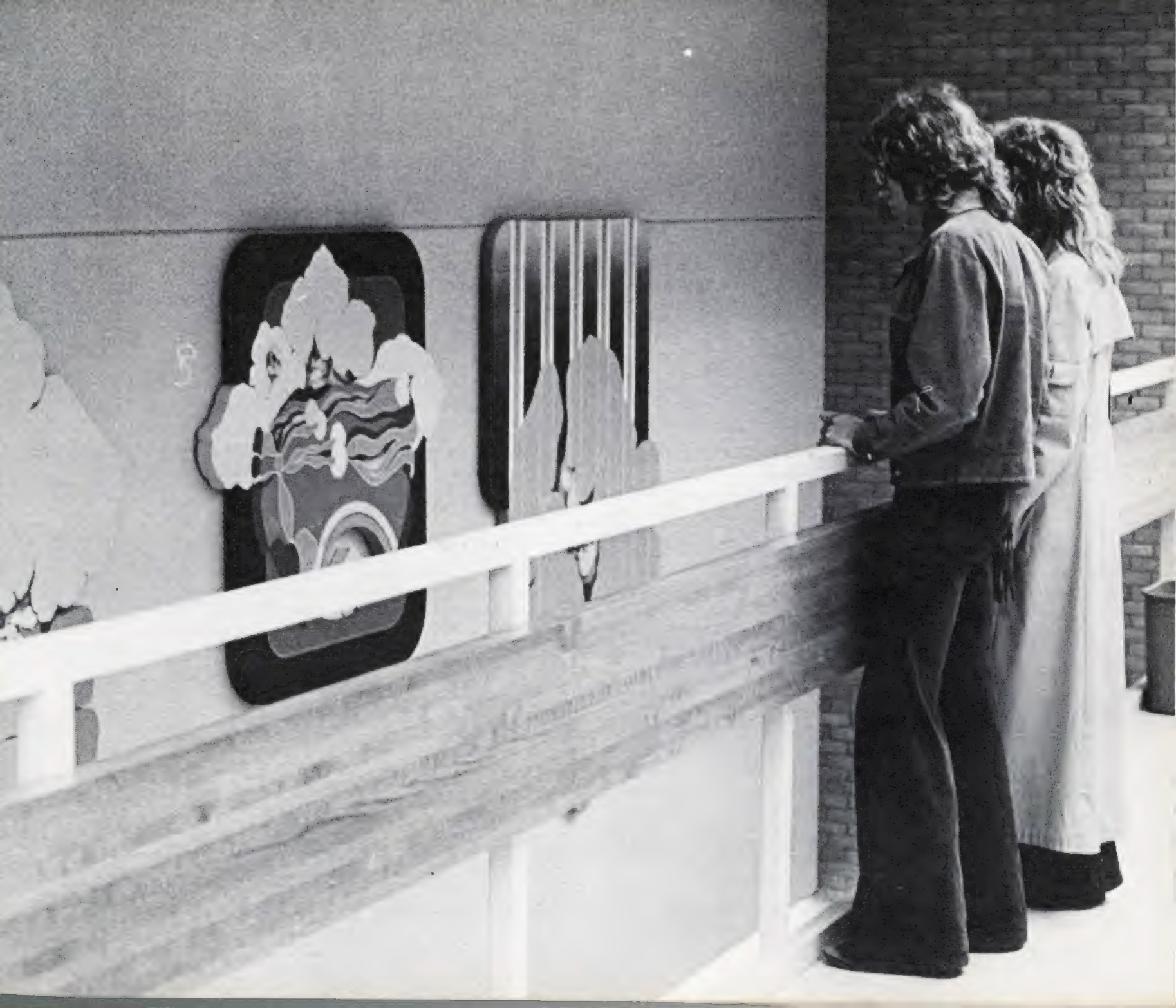
3 Sem Hrs

Prerequisite: Art 111. A continuation of Art 111 emphasizing composition and a further understanding of the elements of drawing in relation to individual expression. Problems involve a variety of media. (0-6)

Art 113 (25113) Art Education

3 Sem Hrs

Prerequisite: None. Introduction to art for prospective teachers. Develops the ability to stimulate the creative interests of children in art. Acquaints the student with a variety of methods and materials adjusted to various grade levels. (0-6)



Art 114 (25114) Art Education 3 Sem Hrs
Prerequisite: Art 113. A continuation of Art 113. Additional investigation of the theories of art education and creative growth of children. (0-6)

Art 115 (25115) Basic Design — Two Dimensional 3 Sem Hrs
Prerequisite: None. Experimentation with the basic elements of design: line, form, space, value, textures, and color. A variety of media is used in developing a visual vocabulary and understanding of art elements and composition. (0-6)

Art 116 (25116) Basic Design — Three Dimensional 3 Sem Hrs
Prerequisite: Art 115. A continuation of Art 115 with a series of problems designed to explore the elements of design in spatial compositions using a variety of basic materials. (0-6)

Art 151 (25151) Art History and Appreciation 3 Sem Hrs
Prerequisite: None. Required of all first-year art majors. A survey of Western art from Prehistoric times to the Renaissance. Deals with major works and artists of the Prehistoric, Ancient, Classical and Medieval cultures. The emphasis is on the architecture and sculpture of these periods. (3-0)

Art 152 (25152) Art History and Appreciation 3 Sem Hrs
Prerequisite: None. Required of all first-year art majors. A continuation of Art 151. A survey of the history of Western art from the Renaissance through Baroque, Neo-classicism, Romanticism, Impressionism, Expressionism, and the various modern schools. The emphasis is on the painting of those periods. (3-0)

Art 153 (25153) History of Architecture 2 Sem Hrs
Prerequisite: None. The historical development of architecture as a major art form. This development is viewed in relation to man's knowledge of building techniques and available materials as affected by geographic, economic, political and religious influences. (2-0)

Art 154 (25154) The Arts of Africa and the Afro-American 1 Sem Hr
Prerequisite: None. A study of the visual arts of Africa and the Negro. Topics are: (1) the visual arts as they developed in Africa, (2) the influence of African art on the arts of Europe and America, (3) the arts of contemporary Afro-America. (1-0)

Art 210 (25210) Figure Drawing 3 Sem Hrs
Prerequisite: Art 111. A study of the essential aspects of life drawing such as gesture, mass, proportions, anatomy, and structure. Essentially for the art major. (0-6)

Art 217 (25217) Painting 3 Sem Hrs
Prerequisite: Art 111 and Art 115. Experimentation in oil and other media. Techniques, composition, and color are explored in relation to object references, landscape, figure and non-objective work. (0-6)

Art 218 (25218) Advanced Painting 3 Sem Hrs
Prerequisite: Art 217. Still life, landscape, and non-objective problems in the various techniques of water color, tempera, and oil. Recommended for students interested in art for self-enrichment, as well as for art majors. (0-6)

Art 221 (25221) Introduction to Commercial Art 3 Sem Hrs
Prerequisite: Art 115. Instruction in lettering and rough layouts; introduction to typography layouts. Problems encountered in newspaper, magazine, direct mail, and other advertising forms. Laboratory, lecture, and field trips. (0-6)

Art 222 (25222) Sculpture 3 Sem Hrs
Prerequisite: Art 115 or Art 116 or permission of instructor. An introduction to a variety of sculptural concepts and techniques utilizing a variety of media. (0-6)

Art 231 (25231) Basic Ceramics 3 Sem Hrs
Prerequisite: Art 115 and Art 116 or permission of instructor. Introductory study of clay, glazes and their application, and techniques of construction. (0-6)

Art 280 (25280) Printmaking 3 Sem Hrs
Prerequisite: Art 111 and Art 115. A study of the art of printmaking and its major techniques; with studio practice in a variety of printing methods. The techniques taught are basically commercial art techniques with commercial potential as well as being useful to major artists. (0-6)

Art 290-299 (25290-25299) Special Problems in Art
(See Page 55)

LANGUAGES

FRENCH

Fr 111 (26111) Elementary French

4 Sem Hrs

Prerequisite: None. A beginning course presenting the basic structure of the French language with oral-aural drills for correct pronunciation and for understanding and using spoken French, dictation, reading and writing simple French, acquisition of a basic vocabulary. All students are required to do supplemental work in the language laboratory. (4-0)

Fr 112 (26112) Elementary French

4 Sem Hrs

Prerequisite: French 111 or one year of high school French. A continuation of French 111 with further development of oral-aural skills. Grammatical structure with practice in writing French, and reading of easy French for comprehension of the written language and increasing vocabulary required language laboratory assignments. (4-0)

Fr 211 (26211) Intermediate French

4 Sem Hrs

Prerequisite: French 112 or two years of high school French. Review and application of principles of French grammar by means of oral and written exercises and composition, pronunciation through aural and oral exercises and conversation, reading of French prose and outside reading to develop rapid reading ability at sight are stressed. Classes conducted as far as possible in French. (4-0)

Fr 212 (26212) Intermediate French

4 Sem Hrs

Prerequisite: French 211 or three years of high school French. A continuation of French 211, with somewhat more emphasis on oral skill and conversation. (4-0)

Fr 290-299 (26290-26299) Special Problems in French

(See Page 55)

GERMAN

Ger 111 (28111) Elementary German

4 Sem Hrs

Prerequisite: None. Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written German by means of oral-aural practice, reading of simple texts, and written exercises. Language laboratory assignments required. (4-0)

Ger 112 (28112) Elementary German

4 Sem Hrs

Prerequisite: German 111 or one year of high school German. A continuation of German 111. (4-0)

Ger 211 (28211) Intermediate German

4 Sem Hrs

Prerequisite: German 112 or two years of high school German. Continued emphasis is placed on proper pronunciation habits and on application of basic grammatical structures of modern spoken and written German by means of oral-aural exercises, conversations, reading of German prose, and written exercises. As far as possible, this class is conducted in German. Language laboratory assignments required. (4-0)

Ger 212 (28212) Intermediate German

4 Sem Hrs

Prerequisite: German 211 or equivalent. A continuation of German 211 with emphasis on conversation and composition. Special attention given to those interested in technical German. (4-0)

Ger 290-299 (28290-28299) Special Problems in German

(See Page 55)

RUSSIAN

Russ 111 (29111) Elementary Russian

4 Sem Hrs

Prerequisite: None. Acquisition of proper pronunciation, basic grammatical structures and vocabulary of modern spoken and written Russian by means of oral-aural practice, reading of simple texts, and written exercises. Language laboratory assignments. (4-0)

Russ 112 (29112) Elementary Russian

4 Sem Hrs

Prerequisite: Russian 111 or one year of high school Russian. Continuation of Russian 111. (4-0)

Russ 211 (29211) Intermediate Russian

4 Sem Hrs

Prerequisite: Russian 112 or two years of high school Russian. Continued emphasis placed on proper pronunciation habits and application of grammatical structures of modern spoken and written Russian by means of oral-aural exercises, conversations, reading of Russian prose, and written exercises. As far as possible this class is conducted in Russian. Language laboratory assignments. (4-0)

Russ 212 (29212) Intermediate Russian

4 Sem Hrs

Prerequisite: Russian 211 or its equivalent. Continuation of Russian 211 with more emphasis on conversation and composition. (4-0)

Russ 290-299 (29290-29299) Special Problems in Russian

(See Page 55)

SPANISH

Spa 111. (34111) Elementary Spanish 4 Sem Hrs
Prerequisite: None. Emphasis on conversational Spanish. Daily oral-aural practice with required language laboratory assignments. Grammatical constructions accompanied by drill exercises and easy composition. Simple readings concerning Latin American countries. (4-0)

Spa 112 (34112) Elementary Spanish 4 Sem Hrs
Prerequisite: Spanish 111 or one year of high school Spanish. Continuation of Spanish 111. (4-0)

Spa 211 (34211) Intermediate Spanish 4 Sem Hrs
Prerequisite: Spanish 112 or two years of high school Spanish. Review and application of principles of grammar by means of oral and written reviews, practice in conversation, outside reading to develop ability to read rapidly at sight and translation from English into Spanish. As far as possible this class is conducted in Spanish. (4-0)

Spa 212 (34212) Intermediate Spanish 4 Sem Hrs
Prerequisite: Spanish 211 or three years of high school Spanish. A continuation of Spanish 211 with further detailed review and application of principles of grammar, reading of Spanish short stories, and practice in advanced conversation and composition. As far as possible this class is conducted in Spanish. (4-0)

Spa 290-299 (34290-34299) Special Problems in Spanish
(See Page 55)

LIBRARY SCIENCE

Lib Sci 281 (36281) Classification and Cataloging 3 Sem Hrs
Principles and practices of library classification and cataloging, with emphasis on Dewey Decimal Classification System. Lectures combined with laboratory practice. (3-0)

Lib Sci 282 (36282) Reference Books 3 Sem Hrs
Study of basic books most frequently used by reference librarians. Use of encyclopedias, dictionaries, atlases, and indexes is stressed. Lectures combined with laboratory practice. (3-0)

Lib Sci 290-299 (36290-36299) Special Problems in Library Science
(See Page 55)

MUSIC

Suggested Courses for Music Majors

First Semester

Music 101 Theory-Basic Musicianship
Music 102 Theory-Basic Musicianship

Second Semester

Music 201 Theory-Basic Musicianship
Music 202 Theory-Basic Musicianship

Third Semester

Music 211 Music History
Music 212 Music History

Fourth Semester

Music 105 String Ensemble
Music 115 Wind Ensemble
Music 141 Choir

Music 291 Independent Study
(Credit for private lessons in applied music from instructors approved by Delta Music Department. This instruction may be off campus in teacher's studio. Jury examination required at end of each semester.)

Mus 101 (38101) Theory-Basic Musicianship 5 Sem Hrs
Prerequisite: None. However, basic musical knowledge recommended, i.e., keys, notation, rhythm, and clefs. Comprehensive course for potential music majors. Emphasis on aural theory, written theory, and keyboard harmony. (3-4)

Mus 102 (38102) Theory-Basic Musicianship 5 Sem Hrs
Prerequisite: Music 101. Continuation of written theory with drill in harmonic and melodic dictation. Sight-singing and keyboard harmony through harmonic dictation of four-part Bach Chorale and other appropriate styles. (3-4)

Mus 105 (38105) String Ensemble 1 Sem Hr
Prerequisite: Experience in high school orchestra or equivalent. May be elected for four semesters. (0-2)

Mus 111 (38111) Music Literature 3 Sem Hrs
Prerequisite: None. Acquaints the student with the fundamentals of listening. Symphonic music is emphasized. (3-0)



Mus 112 (38112) Music Literature 3 Sem Hrs
Prerequisite: Music 111 or permission of instructor. Continued study of instrumental music (concerta small ensemble). Promotes an understanding of, and appreciation for, vocal forms (opera, art, song, large choral work, i.e., oratorios, masses). (3-0)

Mus 115 (38115) Wind Ensemble 1 Sem Hr
Prerequisite: Band experience in high school or the equivalent. May be elected for four semesters. (0-2)

Mus 121 (38121) Elements of Music 3 Sem Hrs
Prerequisite: None. Rudiments of music, including notation, clefs, keys, syllables, and rhythm. Teaching of songs. Elementary conducting technique. Planned to meet the basic musical needs of those who expect to teach in the elementary grades. (3-0)

Mus 130 (38130) Black Music 2 Sem Hrs
Prerequisite: None. Acquaints students with Black Music with the following course objectives:
To depict the historical and sociological conditions under which Black Music developed.
To place Black Music in its proper perspective within the field of music in America.
To relate Black Music as an expression of attitude among Blacks regarding their living conditions and experiences, as slaves and as "freemen" in relationship to the Black life style.
To trace the origin and development of Black Music through the spiritual, the blues, jazz, rock 'n roll, and the works of "serious" Black composers. (2-0)

Mus 131 (38131) Beginning Class Piano 2 Sem Hrs
Prerequisite: Music 121 or permission of the instructor. Beginning class piano instruction leading to the ability to play melodies and accompanying chord patterns and rhythms. (1-1)

Mus 132 (38132) Intermediate Class Piano 2 Sem Hrs
Prerequisite: Music 131 or permission of the instructor. Continuation of Beginning Class Piano. (1-1)

Mus 141 (38141) Choir 1 Sem Hr
Prerequisite: None. However, high school and/or church choir experience is recommended. Directed toward the study of representative choral music and public performances in college and community activities. May be elected for four semesters. (0-3)

Mus 201 (38201) Theory-Basic Musicianship 3 Sem Hrs
Prerequisite: Music 102 or permission of instructor. Second-year Music Theory for music majors involving sophomore level aural and written theory with keyboard. (3-1)

Mus 202 (38202) Theory-Basic Musicianship 3 Sem Hrs
Prerequisite: Music 201. Second-year Music Theory for music majors involving sophomore level aural and written theory with keyboard. (3-1)

Mus 211 (38211) Music History 3 Sem Hrs
Prerequisite: Music 111 or permission of instructor. An in-depth study of music of ancient times to the Seventeenth Century. Required for music majors. (3-0)

Mus 212 (38212) Music History 3 Sem Hrs
Prerequisite: Music 111 or 211 or permission of instructor. A continuation of Music 211 with a study of music from the Seventeenth Century to the present with emphasis on form and style. Required for music majors. (3-0)

Mus 290-299 (38290-38299) Special Problems in Music
(See Page 55)

PHILOSOPHY

Phil 211 (40211) Introduction to Philosophy 3 Sem Hrs
Prerequisite: Sophomore standing. Designed to acquaint the student with some of the fundamental questions that have confronted mankind and the way in which these questions have been dealt with by the most profound thinkers of the past and present. (3-0)

Phil 212 (40212) Reading in Elementary Philosophy 3 Sem Hrs
Prerequisite: Sophomore standing. Aims at direct reading of the earlier philosophers, especially Plato, Aristotle, Descartes. The historical approach to supplement the other method of theories-approach in philosophy. (3-0)

Phil 213 (40213) Introduction to Ethics 3 Sem Hrs
Prerequisite: Sophomore standing. Designed to inquire into the principles of moral philosophy and to study the many different theories of ethics included in the writings of the leading moral philosophers. (3-0)

Phil 214 (40214) Philosophy of Religion 3 Sem Hrs
Prerequisite: None. An inquiry into the meaning and relevance of evolving religious beliefs and symbols and an examination of methodological issues relating to problems of God, man and the universe. (3-0)

Phil 221 (40221) Logic

4 Sem Hrs

Prerequisite: Sophomore standing or second semester Freshman with minimum C-plus average. Development of effective thinking through the study of classical logic. Methods of clear argumentation, definition, assessment of evidence, and a brief introduction to inductive logic and the scientific method. (4-0)

Phil 290-299 (40290-40299) Special Problems in Philosophy

(See Page 55)

RADIO-TELEVISION**RTV 149 (43149) Broadcast Laboratory**

3 Sem Hrs

Prerequisite: None. This course is a basic introduction to all aspects of television and radio production. Emphasis will be placed on developing student proficiency and an understanding of audio control equipment, television camera operations, light and staging techniques, and the selection and integration of written and visual production elements. Three hours per week additional time will be required in operational laboratory experience under actual broadcast conditions. Time to be arranged with the instructor to fit each student's schedule. (3-0)

RTV 150 (43150) Radio and Television Writing

3 Sem Hrs

Prerequisite: None. This course is conceived as both a practical and theoretical presentation. Such areas as film narration, public service announcements, commercials, drama, and program continuity are the course's major areas of concern. (2-2)

RTV 153 (43153) Broadcast Performance

3 Sem Hrs

Prerequisite: None. In this course the broadcasting student explores, in depth, presentations before microphones and cameras. Dress, movement, make-up, lighting, and delivery are all carefully considered. All major performance situations are thoroughly examined: narrations, speeches, interviews, discussions, news-casts, commercials, and children's programs and demonstrations. (2-2)

RTV 154 (43154) Fundamentals of Studio Operations

3 Sem Hrs

Prerequisite: Radio-Television 149. This course is divided into three basic study units: type of equipment, operation of equipment, and responsibilities of studio personnel. Through actual production work, students learn the theory and practice of such specialty areas as television graphics, studio lighting, audio operation, and camera techniques. This is a television production course. Three hours per week additional time will be required in operational laboratory experience under actual broadcast conditions. Time to be arranged with the instructor to fit each student's schedule. (2-2)

RTV 156 (43156) Radio Broadcasting

3 Sem Hrs

Prerequisite: None. Radio-Television 156 is a specialized concentration in the area of the principles and techniques of producing, programming, and management. It stresses the new role radio broadcasting has come to play among mass media. (2-2)

RTV 157 (43157) Cinematography for Television

3 Sem Hrs

Prerequisite: None. This course in film production emphasizes the technical side of filmmaking. Recent advances in equipment and methods are discussed as the basis of increasingly creative uses of film. Basic orientation is toward film for television using 16mm, low budgets and small crews. Students produce, direct, shoot, and edit their own short films, using television department's equipment. Viewing and technical analysis of both professional and amateur films are intended to help the student establish personal criteria of good technique and quality. (2-2)

RTV 220 (43220) Communications History, Law and Responsibilities

3 Sem Hrs

Prerequisite: None. This offering is divided into two parts. The first part will involve study of the origin, development, nature and function of radio and television stations and networks. The economy, laws and regulations of the broadcasting industry are discussed. The self-regulation of the industry and the social controls on it in modern society are evaluated. The other part of this course delves deeply into communications law, regulatory acts and agencies, self-regulatory codes, labor unions, and the ethical and moral considerations of being a broadcaster. This course will also review all pending legislation affecting broadcasting and will look toward all future technical and legal developments. (3-0)

RTV 222 (43222) Broadcast Journalism

3 Sem Hrs

Prerequisite: None. (Recommended courses: Radio-Television 153 and 157). What is news and how it is obtained and presented by the electronic media, is the crux of this course. Public information in an authoritarian and libertarian society is analyzed. With the growing concern over the mass dissemination of information, it is the purpose of this course to provide a forum for the discussion of the moral, ethical and legal responsibilities that lie at the center of the radio and television news controversy. Such areas as news gathering, writing, laws of libel and slander, information structuring, and public affairs programming are areas of specific interest. The special requirements of radio and television news are examined. This course is at once theoretical, evaluatory and practical. The course is for both radio and television. (3-0)



RTV 225 (43225) Advanced Studio Operations 3 Sem Hrs
Prerequisite: Radio-Television 154. The broadcasting student strives to become proficient in the operation of all studio equipment and production elements. Besides the elements introduced in the other television production courses (Radio-Television 149 and 154), the student concentrates on two new specialty areas: set design and scenery construction. (2-2)

RTV 227 (43227) Broadcast Sales 3 Sem Hrs
Prerequisite: None. This unique course brings the marketing concept into broadcast sales. Information on the psychological, sociological, economic, and communicative aspects of salesmanship are applied to the broadcast industry. Actual sales presentations will be prepared for "clients". Frequent guests in the broadcast sales field will be invited to share their experience with the class. (3-0)

RTV 251 (43251) Television Producing and Directing 3 Sem Hrs
Prerequisite: Radio-Television 225 or consent of instructor. This is the most advanced television production course Delta College offers. It assumes the student has mastered the technique of equipment operation. Through lecture and lab, the student is given the opportunity to use his technical knowledge in the artistry of television producing and directing. Students are required to actually produce and direct their own programs. Emphasis is placed on program planning and organization, production equipment and personnel utilization, talent coordination and direction, and camera direction. (2-2)

RTV 290-299 (43290-43299) Special Problems in Radio-Television
(See Page 55)

SPEECH

Speech 112 (46112) Principles of Public Speaking 3 Sem Hrs
Prerequisite: None. Practical problems of public address for the beginning student. Speaking assignments include impromptu, extemporaneous, manuscript, and memorized methods of delivery. Outlining and organization of content stressed. (3-0)

Speech 201 (46201) Speech for the Classroom Teacher 3 Sem Hrs
Prerequisite: None. For education majors, it aims for an understanding of speech in the educational process, self-improvement of the teacher through classroom speech activities, and application of these principles to teacher-pupil relationships. Its comprehensive goal is to aid the teacher in his professional and personal relationships with the students, his colleagues, and his community. (3-0)

Speech 211 (46211) Advanced Public Speaking 3 Sem Hrs
Prerequisite: Speech 111 or 112. A survey of several forms of public address. Includes the theory of speech; frequent platform experiences. Attention given to radio and television speaking procedure. All speaking assignments outlined and personal and social communication stressed. (3-0)

Speech 213 (46213) The Oral Interpretation of Literature 3 Sem Hrs
Prerequisite: Speech 112 or permission of instructor. Understanding and appreciation of literature through the awareness of the oral basis of language. Analysis and communication of written text as thought, feeling, sound, and action. (3-0)

Speech 214 (46214) Discussion Techniques 3 Sem Hrs
Prerequisite: A previous speech course or permission of the instructor. Designed to explain discussion as a means to better understanding and action in human affairs and to develop attitudes and skills which enable people to participate in discussion competently. A study of group leadership. (3-0)

Speech 215 (46215) Introduction to Theatre 3 Sem Hrs
Prerequisite: None. Designed to give the student some insight into the various aspects of theatrical production. The purpose is to make the student a discriminating observer of dramatic production whether on stage, film, or the T.V. screen. Included in this study are play analysis and practical experience in acting, directing, scenery, and lighting. (3-0)

Speech 216 (46216) Theatre History 3 Sem Hrs
Prerequisite: History 111 or 112 or permission of instructor. This class is devoted to introducing the student to the various historical eras of the theatre, from the Ancient Greeks to the present. Emphasis is placed on the development of the physical theatre, representative playwrights, and the development of actor and the director. (3-0)

Speech 217 (46217) Technical Theatre 3 Sem Hrs
Prerequisite: None. Designed to acquaint the student with the technical aspects of theatrical production: i.e., set design/construction, lighting, sound, props. Instruction to be both lecture and practical lab. (3-0)

Speech 221 (46221) Persuasion and Argumentation 3 Sem Hrs
Prerequisite: Speech 112 or permission of instructor. Techniques of analysis, reasoning, briefing, and refutation. Talks to win attention, secure action, and overcome prejudice and hostility. (3-0)

Speech 290-299 (46290-46299) Special Problems in Speech
(See Page 55)

MATHEMATICS DIVISION

Division Chairman — Newell H. Remington, Associate Professor

Associate Professor	Assistant Professor	Instructor
John H. Brinn	Jack L. Crowell	James A. Verhanovitz
Robert H. DeVinney	Robert F. Keicher	
John S. Kostoff	Anne E. Martin	
Donald L. Laughner	Jerry A. Schuitman	
Joseph L. Mazanec	James S. Soddy	
Donald A. McPhee	Donna J. Weyer	

Course prerequisites are stated in terms of Delta courses or the number of years of high school mathematics, and are intended to insure that students choose the appropriate mathematics course. Individuals may have a mathematics background equivalent to a stated prerequisite, in which case they should consult a counselor for assistance in evaluating equivalencies. Any student who feels that circumstances warrant waiving a prerequisite should consult the Mathematics Division for approval. It is recommended that a grade of "C" or better be earned in any mathematics course used as a prerequisite for another mathematics course.

Math 91 (58091) Arithmetic 2 Hrs Service Credit
Prerequisite: None. Provides a foundation in arithmetic. The four fundamental operations on whole numbers, common and decimal fractions and percentages, to formulas, ratio and proportion, and an introduction to algebra. (2-0)

Math 92 (58092) Algebra I 3 Hrs Service Credit
Prerequisite: Mathematics 91. Natural numbers, integers, first degree equations and inequalities, special products, factoring, fractional equations, graphs and linear systems, radicals, exponents, quadratic equations. (3-0)

Math 93 (58093) Plane Geometry 3 Hrs Service Credit
Prerequisite: Mathematics 92. Calculations with approximate data, metric system, angles, parallel lines, congruency of figures, circle; ratio, proportion and similar polygon formulas applying to plane and solid figures, locus and construction. (3-0)

Math 106 (58106) Elementary Slide Rule 1 Sem Hr
Prerequisite: Mathematics 92. Designed for students who have had no previous experience with the slide rule. Topics include multiplication, division, proportion, squares and square roots, cubes and cube roots. Some problems will also be solved with electronic desk calculators. (Class meets for 7½ weeks.) (1-0)

Math 108 (58108) Elementary Statistics 3 Sem Hrs
Prerequisite: Mathematics 119. Elementary statistical concepts studied include frequency distributions, measures of central tendency and dispersion, sampling, estimation, testing hypothesis, linear correlation, and regression. (3-0)

Math 110 (58110) Mathematics for Elementary Teachers 4 Sem Hrs
Prerequisite: Mathematics 92. Numeration systems, sets and numbers, basic concepts and structure of arithmetic. (4-0)

Math 111 (58111) Applied Algebra I 2 Sem Hrs
Prerequisite: Mathematics 92; Mathematics 93 advisable. Basic algebraic operations, linear equations, systems of linear equations, functions and linear graphing. (Class meets for 7½ weeks.) (2-0)

Math 112 (58112) Applied Algebra II 2 Sem Hrs
Prerequisite: Mathematics 111. Determinants, exponents and radicals, quadratic equations, ratio, proportion and variation, common and natural logarithms, exponential equations. (Class meets for 7½ weeks.) (2-0)

Math 113 (58113) Applied Trigonometry I 2 Sem Hrs
Prerequisite: Mathematics 112. Definitions and properties of trigonometric functions, solution of right triangles, vectors, graphs or trigonometric functions. (Class meets for 7½ weeks.) (2-0)

Math 114 (58114) Applied Trigonometry II 2 Sem Hrs
Prerequisite: Mathematics 113. Complex numbers, vectors, trigonometric equations and identities, solution of triangles, graphing. (Class meets for 7½ weeks.) (2-0)

Math 116 (58116) Slide Rule 1 Sem Hr
Prerequisites: Mathematics 106 and Mathematics 113 of Mathematics 121. (Mathematics 113 may be taken concurrently.) A continuation of Mathematics 106 with emphasis on trigonometric and log log scales. (Class meets for 7½ weeks.) (1-0)

Math 119 (58119) Intermediate Algebra 3 Sem Hrs
Prerequisite: Mathematics 92. Fundamental concepts of algebra, graphs, systems of linear equations, quadratic equations, exponents, radicals, variation, proportion, and logarithms. (3-0)

Math 121 (58121) Plane Trigonometry 3 Sem Hrs
Prerequisites: Mathematics 93 and Mathematics 119. (Mathematics 119 may be taken concurrently.) Definitions and properties of trigonometric functions, solution of triangles, logarithms, identities, equations, inverse functions, complex numbers and applications. (3-0)

Math 122 (58122) College Algebra 3 Sem Hrs
Prerequisites: Mathematics 93 and Mathematics 119. A brief review of some algebraic fundamentals. Topics covered usually include: Proportions, variation, functions, relations, quadratic equations, systems of equations, inequalities, progressions, probability, binomial theorem, theory of polynomial functions, matrices and determinants. (Those students planning to take Mathematics 161 should take Mathematics 151 rather than Mathematics 122.) (3-0)

Math 147 (58147) Introduction to Digital Computing 2 Sem Hrs
Prerequisite: Mathematics 122. Programming digital computers, fundamental concepts and techniques of computation with a computer, using the FORTRAN language. Students will have opportunity to run problems on the IBM 1620, and the IBM 360-40. (2-0)

Math 151 (58151) Pre-Calculus Mathematics 4 Sem Hrs
Prerequisite: At least three years of college preparatory mathematics, including trigonometry or both Mathematics 119 and 121. Topics covered include: rational, polynomial, logarithmic, exponential and trigonometric functions, matrices, determinants, systems of equations, progressions, analytic geometry, inequalities, binomial theorem, and mathematical induction. (4-0)

Math 161 (58161) Analytic Geometry and Calculus I 4 Sem Hrs
Prerequisite: Four years of college preparatory mathematics or Mathematics 151. Relations, functions, the line, curve sketching, limits, continuity, differentiation and integration of algebraic and trigonometric functions, applications of differentiation. (4-0)

Math 162 (58162) Analytic Geometry and Calculus II 4 Sem Hrs
Prerequisite: Mathematics 161. Differentiation and integration of exponential, logarithmic and hyperbolic functions, parametric equations, polar coordinates, methods of integration, applications of integration, limits, continuity and indeterminate forms. (4-0)

Math 211 (58211) Applied Calculus 5 Sem Hrs
Prerequisite: Mathematics 114. Conics, differentiation and integration of algebraic, trigonometric, logarithmic and exponential functions. Emphasis on the application of the derivative and integral. (5-0)

Math 261 (58261) Analytic Geometry and Calculus III 4 Sem Hrs
Prerequisite: Mathematics 162. Solid analytic geometry, vectors, infinite series, partial differentiation, and multiple integration. (4-0)

Math 263 (58263) Introduction to Linear Algebra 3 Sem Hrs
Prerequisite: Mathematics 162, with Mathematics 261 desirable. Matrices, determinants, linear systems, vector spaces, linear transformations. (3-0)

Math 264 (58264) Introduction to Ordinary Differential Equations 2 Sem Hrs
Prerequisites: Mathematics 261 and 263 or Mathematics 263 taken concurrently. Some special types of differential equations and their applications, linear differential equations, systems of linear differential equations, solutions by means of power series. (2-0)

Math 290-299 (58290-58299) Special Problems in Mathematics
(See Page 55)

ALLIED HEALTH

Chal S. Bauer, Coordinator of Radiologic Technology

Assistant Professor

John M. Flattery
Phyllis A. Jernstadt

DENTAL ASSISTING

DA 101 (62101) Introduction to Dental Assisting 4 Sem Hrs
An introduction to the dental profession and the dental assistant's role as a member of the dental health team. Beginning study of dental nomenclature and office procedures. Nutrition as applied to dental health and oral hygiene. (4-0)

DA 102 (62102) Dental Anatomy and Physiology 2 Sem Hrs
The study of head and oral anatomy; the physiology and occlusion of the dentition. In the laboratory students will use dentoforms, models, charts and carvings. (1-3)

DA 103 (62103) Dental Materials and Laboratory Procedures 4 Sem Hrs
The study of gypsum products, impression materials, and restorative materials; their physical properties, preparation and manipulation. The construction of base plates, bite rims, custom impressions trays and cast metal restorations. (3-3)

DA 104 (62104) Dental Instruments and Equipment 2 Sem Hrs
Introduction to dental instruments, equipment; identification, care, use and maintenance. (1-3)



DA 105 (62105) Pathology and Pharmacology (including Anesthesia)

3 Sem Hrs

The pathology of soft and hard tissues of the oral cavity will be examined. Special emphasis on periodontal disease and dental caries. A study of drugs, their sources, methods of administration and precaution in administration. (3-0)

DA 201 (62201) Dental Roentgenology

3 Sem Hrs

The study of the principles and properties of x-rays, equipment and materials used in dental roentgenology. (2-3)

DA 202 (62202) Operative Procedures

4 Sem Hrs

Chairside assisting in the general and speciality practices. Pre-operative procedures, care of patient, operative procedures, and post-operative care. (3-3)

DA 203 (62203) Dental Records and Practice Administration

2 Sem Hrs

A course in office management with emphasis on patient and office records, communications, supplies, and appointment control. (2-0)

DA 210 (62210) Internship

7 Sem Hrs

Students will be assigned to work in a dental office, making practical application of all previous course work. (0-21)

DA 290-299 (62290-62299) Special Problems in Dental Assisting

(See Page 55)

HEALTH SCIENCE

Health Sci 111 (68111) Medical Terminology

2 Sem Hrs

Prerequisite: None. Designed to develop a basic understanding of the spelling, meaning and pronunciation of commonly used prefixes, suffixes, and root words, and their combining forms, used in all fields of allied health. (2-0)

Health Sci 290-299 (68290-68299) Special Problems in Health Science

(See Page 55)

RADIOLOGIC TECHNOLOGY

Rad Tech 101 (63101) Radiographic Anatomy

5 Sem Hrs

Prerequisite: Basic Science 101 (Fall semester section for Radiologic Technology students), or permission of the instructor. The study of structure and function of bones; bony prominences and depressions; classification and development of bones and their application to radiography. The digestive, respiratory, circulatory and other body systems. (4-3)

Rad Tech 102 (63102) Radiographic Physics

3 Sem Hrs

Prerequisite: Radiologic Technology 112, or permission of the instructor. Designed to familiarize the student with basic physical principles. Deals with mechanics, heat, sound, magnetism, electricity, and light. Emphasis placed on applicability of radiology. (3-0)

Rad Tech 111 (63111)

Introduction to Radiologic Technology

3 Sem Hrs

Prerequisite: None. Two hours of lecture per week on campus. The theory, history, properties of x-ray, radiographic procedures and positioning as background for further training in radiologic technology. Three hours per week devoted to practice of the theory. This practice will be in the college laboratory. (2-3)

Rad Tech 112 (63112) Radiologic Technology I

4 Sem Hrs

Prerequisite: Radiologic Technology 111. Three hours of lecture per week on campus. A continuation of the properties of x-ray, radiographic procedures and positioning. Nursing procedures and sterile techniques used in radiographic practice. Three hours per week devoted to practice of the theory. This practice will be in the college laboratory. (3-3)

Rad Tech 113 (63113) Radiologic Technology II

8 Sem Hrs

Prerequisite: Radiologic Technology 112. Three hours of lecture per week on campus. Nomenclature of positioning, techniques for special views, articulations, fractures of various bones, skull and facial bones and pediatric radiography. Techniques for various glands, foreign bodies and soft tissue calcification examination. Fifteen hours per week devoted to practice of the theory. This practice will be in the hospital x-ray department. (3-15)

Rad Tech 211 (63211)

Advanced Radiologic Technology I

11 Sem Hrs

Prerequisite: Radiologic Technology 113. Three hours of lecture per week on campus and two hours per week at the hospital. Lectures will include special radiographic procedures, the use of various contrast media, advanced study in radiation protection plus film critiques and general review of specific areas of study. Eighteen hours per week devoted to practice of the theory. This practice will be in the hospital x-ray department. (5-18)

Rad Tech 212 (63212)**Advanced Radiologic Technology II**

11 Sem Hrs

Prerequisite: Radiologic Technology 211. Three hours of lecture per week on campus and two hours per week at the hospital. Subject material during this semester will include dental radiography, equipment maintenance, departmental administration, and civil defense monitoring. Film critiques and general review will be held in the hospital. Eighteen hours per week will be devoted to the practice of theory in the hospital x-ray department. (5-18)

Rad Tech 213 (63213)**Advanced Radiologic Technology III**

15 Sem Hrs

Prerequisite: Radiologic Technology 212. A continuation of Radiologic Technology 212; five hours of lecture per week at the hospital which will include nuclear medicine procedures, radiation therapy, and a review of medical and surgical diseases and their relationship to radiography. Overview of previous courses and film critiques will be given weekly. Thirty-five hours of practice of theory will be given in the hospital x-ray department. (5-35)

Rad Tech 311 (63311)**Radiologic Technology Internship**

12 Sem Hrs

Prerequisite: Radiologic Technology 213. This is a graduation requirement; thirty-eight hours per week of practical application of radiologic technology. This experience will be under the supervision of the radiologist and the chief radiologic technologist, and will be gained in the affiliating hospital departments of radiology. Two hours per week of lecture at the hospital will be devoted to film critiques and general review. (2-38)

Rad Tech 312 (63312)**Radiologic Technology Internship**

12 Sem Hrs

Prerequisite: Radiologic Technology 311. A continuation of the graduation requirement; thirty-eight hours per week of practical application of radiologic technology. This experience will be under the supervision of the radiologist and the chief technologist, and will be gained in the affiliating hospital departments of radiology. Two hours per week of lecture at the hospital will be devoted to film critiques and general review. (2-38)

Rad Tech 290-299 (63290-63299) Special Problems in Radiologic Technology

(See Page 55)

NURSING DIVISION

Division Chairman — Therese A. Seaman, Assistant Professor

Associate Professor

Crystal M. Lange
Caroline M. Mertz
Velma J. Phillips

Assistant Professor

Jessie R. Dolson
Gayle D. Hanna
Mary Ann D. Slaggert
Marjorie A. Tait
Joyce E. Whittaker
Bonifacia M. Wojcik

Instructor

Diana L. Duke
Katherine C. Yops

NURSING**Nursing 111 (61111) Fundamentals of Nursing**

8 Sem Hrs

Prerequisite: Basic Science 101 or concurrent registration. Introduces the student to principles of care of patients. It is designed to develop the beginning technical observational and communicative skills necessary to meet the basic needs of the individual. (4-12)

Nursing 112 (61112) Maternal and Child Nursing

8 Sem Hrs

Prerequisites: Nursing 111 and Nursing 211. Provides an opportunity to study and participate in the nursing care of the mother throughout the maternity cycle and the child from conception through adolescence. Family interrelationships and community health principles are stressed throughout this course. (4-12)

Nursing 211 (61211)**Nursing in Physical and Mental Illness**

8 Sem Hrs

Prerequisites: Basic Science 102 or concurrent registration and Nursing 111. The multi-faceted aspects of illness, as they affect nursing care of all age groups, are studied along with principles of rehabilitation, nutrition, pharmacology, psychology and sociology. The student is expected to use prior learning experiences as a foundation to the achievement of more complex skills. (4-12)

Nursing 212 (61212)**Nursing in Physical and Mental Illness**

8 Sem Hrs

Prerequisites: Nursing 111 and Nursing 211. Continuation of Nursing 211. (4-12)

Nursing 213 (61213) Trends in Nursing

2 Sem Hrs

Prerequisite: Nursing 211. Provides the opportunity for students to raise professional problems, consider ways of solution, and to understand the modifications which are necessary as indicated by society. An attempt is made to facilitate the transition from the nursing student to graduate nurse. (2-0)

Nursing 220 (61220) Team Leadership 3 Sem Hrs

Prerequisite: Must be a graduate nurse and employed in nursing. Basic principles of nursing team leadership with emphasis on dynamics of the small work group and on utilization of various levels of personnel. The team leader's role in individualizing patient care: patient assessments; initiating and implementing nursing care plans will also be discussed. Designed for providing continuity of patient care. (2-3)

Nursing 290-299 (61290-61299) Special Problems in Nursing

(See Page 55)

SCIENCE DIVISION

Division Chairman — Dr. Richard H. Northrup, Associate Professor

Associate Professor

Lorne P. Adams
Carl F. Altenhof
Carl F. Cisky
Bruce C. Corliss
Dr. Wilbur L. Dungey
Eldon D. Enger
Andrew H. Gibson
J. Richard Kormelink
Rodney J. Smith
Dr. Edward J. Stry

Assistant Professor

Clayton H. Borgman
Dr. Paul A. Catacosinos
G. Nelson Greene
J. Sumitra Heinert
Robert J. Hilbert
Dr. Clark F. Most, Jr.
Frederick C. Ross
Arthur G. Smith
Westbrook A. Walker
Marion H. Whittaker
David R. Williams

Instructor

Barry A. Carlson
Dr. Paul E. Koblas
Frank M. Omilian
Ronald L. Sharp

AGRICULTURE

Soil Sci 210 Fundamentals of Soil Science 4 Sem Hrs

Prerequisite: Chemistry 102, 122, or 112. Principles of the origin and development of soils. Relationship of properties to utilization and soil fertility to plant composition and animal health. Emphasis is placed on changing soils to serve man. When offered in the fall, the orientation is toward earth and animal sciences; in the spring, the orientation is toward soil and plant sciences. (4-0)

Crop Sci 250 Plant and Animal Genetics 4 Sem Hrs

Prerequisite: Biology 151 or Biology 161. Fundamental genetic principles with particular reference to problems in plant and animal biology. (3-2)

Animal Sci 325 Applied Animal Nutrition 4 Sem Hrs

Prerequisites: Chemistry 112 or 122 and Chemistry 211. Livestock feeds and their nutrients. Functions of and requirements for nutrients. Evaluation of feeds. Feeding practices. Formulations of rations of beef and dairy cattle, horses, poultry, sheep, and swine. (3-2)

Agr 290-299 Special Problems in Agriculture

(See Page 55)

AVIATION

Avia 101 (70101) Private Pilot Ground Training 4 Sem Hrs

Prerequisite: None. Designed to provide the student with basic principles of flight that are of concern to the private pilot. Special emphasis will be placed on preparing one to pass the Federal Aviation Administration Private Pilot written examination. Emphasis is given to: Pre-flight facts, Federal Aviation Agency regulations, meteorology, flight computer, navigation and radio navigation. (4-0)

Avia 110 (70110)

Commercial Pilot Ground Training

4 Sem Hrs

Prerequisite: Knowledge of the Private Ground School recommended. Designed to prepare students for the Federal Aviation Administration Commercial Pilot written examination leading to licensure of a commercial pilot by the Federal Aviation Administration. Covers applicable flight information publications, meteorology and weather, navigation, aerodynamics and principles of flight, aircraft instruments. (4-0)

Avia 201 (70201) Instrument Ground School 4 Sem Hrs

Prerequisite: Private Pilot License or Commercial Pilot License. Designed to prepare students for the Federal Aviation Administration Instrument Pilot Ground School written examination leading to licensure of a pilot by the Federal Aviation Administration. (4-0)

Avia 202 (70202) Weather

3 Sem Hrs

Prerequisite: Knowledge of Aviation 101, 110, and 201 recommended. Provides depth in understanding weather. Examines how and why of weather forms, the problems it presents, and solutions to those problems; interprets weather maps and sequence reports. (3-0)

Avia 290-299(70290-70299) Special Problems in Aviation

(See Page 55)



BASIC SCIENCE

Bas Sci 101 (68101)

Integrated Allied Health Science

5 Sem Hrs

Prerequisite: One year high school biology and chemistry or permission of instructor. An integration of relevant physical, chemical and physiological concepts into a comprehensive understanding of health and disease. (4-3)

Bas Sci 102 (68102)

Integrated Allied Health Science

5 Sem Hrs

Prerequisite: Basic Science 101. A continuation of Basic Science 101 with emphasis on microbiology, serology, and immunity. (4-3)

Bas Sci 290-299 (68290-68299) Special Problems in Basic Science (See Page 55)

BIOLOGY

Biol 105 (69105) Anatomy and Physiology for Medical Assistant

2 Sem Hrs

Prerequisite: None. Designed to provide a basic knowledge of surface anatomy, the body system and physiology. Medical terminology is stressed with emphasis on the spelling and meaning of commonly used prefixes, suffixes, root words and their combining forms. (2-0)

Biol 111 (69111) Principles of Biology

4 Sem Hrs

Prerequisite: None. An introduction to the fundamental concepts underlying biology. Major topics considered will be: evolutionary survey of plant and animal kingdoms, cellular structure and metabolism, and the biology of populations. The role of biology in our present world will be the unifying theme for the course. Required of all biology majors and applicable as science credit for non-majors. (3-3)

Biol 112 (69112) General Biology

4 Sem Hrs

Prerequisite: Biology 111. A course which deals with the application of the concepts of biology to humans, specifically as the concepts relate to human structure, function, and heredity. (3-3)

Biol 115 (69115) Environmental Science

2 Sem Hrs

Prerequisite: None. A course designed to develop an understanding and appreciation of the interacting forces that comprise our environment. Emphasis will center on the modern ecological problems involved in man's relationship to the geographic area under study as it has been affected by the history, economics, and ecological conditions he has created. Using the Saginaw Valley, students will examine various aspects of the exploitation, conservation, and control of the Valley's environment. One required field trip. (2-0)

Biol 151 (69151) Botany

4 Sem Hrs

Prerequisite: Biology 111. Chemistry recommended. A study of the basic physiological processes and the structure necessary to carry on these processes. Survey of the plant kingdom with emphasis upon their evolutionary relationships and their life cycles. The environmental importance of plants is also discussed. (2-6)

Biol 161 (69161) Zoology

4 Sem Hrs

Prerequisite: Biology 111, Chemistry recommended. A course which deals with classification, evolutionary relationships and a comparison of structure and of function of the major groups of animals. (2-6)

Biol 241 (69241) Physiology

4 Sem Hrs

Prerequisite: Biology 161 or a year of college biology or permission of instructor. A study of the function of the major organ systems of animals with special emphasis on the human body. The laboratory will stress the experimental approach to gathering and analyzing physiological data. (3-3)

Biol 261 (69261) Comparative Vertebrate Anatomy

4 Sem Hrs

Prerequisite: Biology 161. Evolution of the higher taxonomic groups of chordates and a comparative study of their gross morphology. Emphasis on dissection of various vertebrates. (2-6)

Biol 271 (69271) Genetics

4 Sem Hrs

Prerequisite: Biology 112, or Biology 151 or Biology 161. A study of classical and molecular genetics. Hereditary material will be considered with regard to its proliferation, its control of protein synthesis, and with regard to the effect of accumulated genetic changes upon evolution. (3-3)

Biol 290-299 (69290-69299) Special Problems in Biology

(See Page 55)

CHEMICAL TECHNOLOGY

CT 111 (72111) Introduction to Chemical Technology 3 Sem Hrs
Prerequisite: None. Introduces the student to Chemical Technology as a career. Topics include significant figures, error limits, limits of precision for standard laboratory equipment, data taking, and the Handbook of Chemistry and Physics. Selected laboratory experiments are designed to acquaint the student with various phases of industrial chemistry procedures and equipment. (2-3)

CT 112 (72112) Chemical Technology Calculations 5 Sem Hrs
Prerequisite: Mathematics 101. Emphasis is on the application of trigonometry, the slide rule and elementary statistics to problems of calculation which are encountered by the chemical technologist. Selected laboratory experiments are designed to furnish laboratory conditions for mathematical applications. (4-3)

CT 211 (72211) Principles of Organic Compounds 5 Sem Hrs
Prerequisite: Chemistry 101. An introduction to hydrocarbons and organic compounds. Includes bonding and structure (isomers), alkanes, alkenes, alcohols, aldehydes, ethers, esters, amines, ketones, cyclic compounds, organic acids, and polymerization. (5-0)

CT 215 (72215) Physical Principles 5 Sem Hrs
Prerequisites: Chemistry 102 and Physics 121. Basic principles of physical chemistry including states of matter, phase-equilibria, solutions, electrochemistry, physical properties, thermodynamics, and chemical kinetics. (5-0)

CT 221 (72221) Chemical Processes Calculations 3 Sem Hrs
Prerequisite: Chemical Technology 215. Stoichiometric principles — conservation of matter and energy. Topics include mass, heat, momentum transfer applied to heat transfer, fluid flow, distillation, humidity, drying evaporation, and extraction. (3-0)

CT 235 (72235) Industrial Laboratory Methods I 6 Sem Hrs
Prerequisite: Concurrent with or subsequent to Chemical Technology 211 and Chemical Technology 215. Lectures cover theory and usage of instrumentation. Laboratory experiments apply the principles covered in Chemical Technology 211 and Chemical Technology 215 to practical commercial problems using typical industrial laboratory hardware. (2-12)

CT 236 (72236) Industrial Laboratory Methods II 6 Sem Hrs
Prerequisite: Chemical Technology 235 and concurrent with or subsequent to Chemical Technology 221. A continuation of Chemical Technology 235 with emphasis on application of the principles covered in Chemical Technology 221. (3-9)

CT 250 (72250) Seminar and Special Projects 2 Sem Hrs
Prerequisite: Concurrent with or subsequent to Chemical Technology 221 and Chemical Technology 236. Designed to develop independent work habits through special projects of the pertinent and current nature. Emphasis will also be given to using library resources, technical journals, handbooks, and catalogs. (1-3)

CT 290-299 (72290-72299) Special Problems in Chemical Technology
(See Page 55)

CHEMISTRY

Chem 100 (71100) Chemistry and the World 4 Sem Hrs
Prerequisite: None. An analysis of the impact of chemistry on our world. Rudimentary concepts of matter and energy will be explored, but particular emphasis will be on current issues such as pollution and the environment, power generation, population, and drugs. Laboratories will be oriented toward using basic techniques in making useful and interesting products. Recommended for elementary school teachers. No previous chemistry or mathematics required. (3-3)

*** Chem 101 (71101) General Chemistry** 5 Sem Hrs
Prerequisite: One year of high school algebra. Fundamental principles including laws of chemical combination, states of matter, and chemical phenomena with reference to modern theoretical principles. Designed as a preparatory to Chemistry 111, for those students with no previous work in Chemistry and to satisfy a science requirement in certain curricula. These students using Chemistry 101 as a prerequisite for Chemistry 111 receive credit only for Chemistry 111 toward graduation from Delta College. (5-2)

Chem 102 (71102) General Chemistry 3 Sem Hrs
Continuation of Chemistry 101. Emphasis on equilibrium metals, and thermal reactions and non-metals. Also selected topics in organic and biochemistry. (3-2)

Chem 111 (71111) General and Inorganic Chemistry 4 Sem Hrs
Prerequisites: High school chemistry or Chemistry 101 and one year of high school algebra with satisfactory placement test scores. Principles concerning structure of matter, chemical and physical changes that matter undergoes, and application of these principles in the laboratory. For students who will need advanced chemistry courses beyond one year of general chemistry, chemistry majors, chemical engineers, pre-dentistry, pre-medicine, pre-veterinary, chemical technology, medical technology, and forestry. (4-3)

Chem 112 (71112) General and Inorganic Chemistry 4 Sem Hrs
Prerequisite: Chemistry 111. Continuation of Chemistry 111. Descriptive study of metals and non-metals, electrochemistry, and of equilibrium and further study of principles. (4-3)

Chem 115 (71115) Engineering Problems 1 Sem Hr
Prerequisite: Chemistry 111. Intended to familiarize the student with equilibria, electrochemistry, redox equations and titrations. (1-0)

Chem 122 (71122) General and Analytical Chemistry 5 Sem Hrs
Prerequisite: Chemistry 111 and approval of the chemistry department. Descriptive chemistry of metals and non-metals including all phases of equilibria. Qualitative Analysis of the cations and quantitative analysis experiments in the laboratory. (4-6)

Chem 201 (71201) Organic Chemistry 5 Sem Hrs
Prerequisite: Chemistry 112 or 122. A course in the basic principles of organic reactions and laboratory techniques meeting the professional needs of medical technologists, dental students, and others. (4-4)

Chem 202 (71202) Organic Chemistry 5 Sem Hrs
Prerequisite: Chemistry 201. A continuation of Chemistry 201. (4-4)

Chem 211 (71211) Organic Chemistry 5 Sem Hrs
Prerequisite: Chemistry 112 or Chemistry 122 with a grade of C or better. A more rigorous course featuring reaction mechanism and structural theory of organic chemistry. Required for majors in chemistry, chemical engineering, and chemical technology. (4-4)

Chem 212 (71212) Organic Chemistry 5 Sem Hrs
Prerequisite: Chemistry 211. A continuation of Chemistry 211. (4-4)

Chem 221 (71221) Qualitative Analysis 4 Sem Hrs
Prerequisite: Chemistry 112. Principles of chemical equilibria with semi-micro chemical analysis of representative cations and anions. (3-6)

Chem 222 (71222) Quantitative Analysis 4 Sem Hrs
Prerequisite: Chemistry 122 or Chemistry 221. Similar to Chemistry 223 but adapted to the needs of medical technology students. Not accepted for chemistry or pre-medical majors. (3-6)

Chem 223 (71223) Quantitative Analysis 4 Sem Hrs
Prerequisite: Chemistry 122 or Chemistry 221. Theory and practice of volumetric and gravimetric analysis with major emphasis on volumetric analysis. (3-6)

Chem 290-299 (71290-71299) Special Problems in Chemistry
(See Page 55)

FIRE PROTECTION TECHNOLOGY

Fire Prot Tech 201 (73201) Fire Hazards I 3 Sem Hrs
Prerequisite: None. A basic course in the chemistry, use, storage, handling, control, transportation of, and fire protection against hazardous liquids, solids, gases, oxidizers, water-reactive chemicals, and gases. Demonstrations will illustrate readings and discussions. (3-0)

Fire Prot Tech 202 (73202) Fire Hazards II 3 Sem Hrs
A course in the control of and the fire protection against specific hazards connected with processing, handling, transporting, and storing flammable liquids, gases, solids; also the control of and fire protection against fire hazards in aviation, shipbuilding, use of radioactive material and radiation machines, building construction, business (hardware, farming, elevators, etc.), and housekeeping. (3-0)

Fire Prot Tech 290-299 (73290-73299) Special Problems in Fire Protection Technology
(See Page 55)

GEOGRAPHY

Geog 105 (74105) Human Geography 4 Sem Hrs
Prerequisite: None. Study focuses on the aspects of geography concerned with man, his utilization of and his impact upon the natural environment. Included are population distribution and growth, settlement forms, utilization and conservation of natural resources, the impact of technology on human occupancy of the earth, man's role in modifying the earth's surface and the origin and spread of cultural elements. (4-0)

Geog 111 (74111) Physical Geography 4 Sem Hrs
Prerequisite: None. Study of the natural environment which is important to man and his activities; introduction to maps and physical features; earth-sun-moon relationships; earth materials, land forms; drainage; and major natural resources. Introduction to weather and climate, soils and vegetation — their character, causes, significance and distribution. (4-1)

Geog 114 (74114) World Cultural Regions (Western World) 4 Sem Hrs
Prerequisite: None. Essential geographic characteristics and concepts of the Western World. The focus will be on the United States and Canada, Latin America and Europe. These regions will be compared and contrasted in terms of their present and potential development. (4-0)



Geog 115 (74115)**World Cultural Regions (Non-Western World)**

4 Sem Hrs

Prerequisite: None. Essential geographic characteristics and concepts of the Non-Western World. The focus will be on Africa, Asia, and the Soviet Union. These regions will be compared and contrasted in terms of their present and potential development. (4-0)

Geog 211 (74211) Economic Geography

4 Sem Hrs

A survey of locational economic patterns and their interrelationships. Included are: energy production, manufacturing, transportation, etc. Special emphasis will be placed upon the study of social and spatial variation in urban-rural land use problems and analysis related to the above, particularly those in the local and state area. (4-0)

Geog 222 (74222) Geography of Asia

3 Sem Hrs

Prerequisite: Geography 111 or 113 and permission of instructor. Regional geographic interpretation of the area as a continent. Study of relationships of physical, economic, social and political environment to human activity. (3-0)

Geog 223 (74223) Geography of Europe

3 Sem Hrs

Prerequisite: Geography 111 or 113 and permission of instructor. Similar to Geography 222 but applied to Europe. (3-0)

Geog 226 (74226)**Geography of United States and Canada**

3 Sem Hrs

Prerequisite: Geography 111 or 113 and permission of instructor. Similar to Geography 222 but applied to the United States and Canada. (3-0)

Geog 245 (74245) Geography of Michigan

3 Sem Hrs

Prerequisite: Permission of instructor. A regional geographic interpretation of Michigan as a setting for economic activity within the state. Study focuses on the geographic relationships between the environment, and the cultural and economic activities within Michigan. (3-0)

Geog 290-299 (74290-74299) Special Problems in Geography

(See Page 55)

GEOLOGY**Geol 111 (75111) Physical Geology**

4 Sem Hrs

Prerequisite: None. A study of the materials and agents responsible for the development of topographic and structural features of the earth. Introductory study of common rocks and minerals. Introduction to maps. One field trip is required. (3-2)

Geol 112 (75112) Historical Geology

4 Sem Hrs

Prerequisite: Geology 111. Study of the successive stages in development of North America as a typical continent, and the evolution of life. Interpretation of topographic and geologic maps and identification of invertebrate fossils. One field trip is required. (3-2)

Geol 211 (75211) Mineralogy

4 Sem Hrs

Prerequisite: One semester of college chemistry (may be taken concurrently) or permission of the instructor. Introduction to the common crystal systems of minerals, followed by a study of the physical and chemical properties, occurrence, formation, and uses of approximately 200 important economic and rock-forming minerals. (1-4)

Geol 221 (75221) Invertebrate Paleontology

3 Sem Hrs

Prerequisite: Geology 112 or permission of the instructor. Morphology, classification, development, and geologic range of the major invertebrate groups. (2-2)

Geol 231 (75231)**World Mineral Resources (Non-Metallic)**

3 Sem Hrs

Prerequisites: Geology 111 and 112 or permission of instructor. Study of the origin and geographic distribution of petroleum, coal, building stones, lime and cement, clay, sand and gravel, salt and gypsum fertilizers, gem stones, and other non-metallic minerals. Occasional field trips. (3-0)

Geol 232 (75232) World Mineral Resources (Metallic)

3 Sem Hrs

Prerequisites: Geology 111 and 112 or permission of instructor. Study of the origin and geographic distribution of iron, copper, lead, zinc, aluminum, radioactive minerals, and other metallic resources. Occasional field trips. (3-0)

Geol 290-299 (75290-75299) Special Problems in Geology

(See Page 55)

PHYSICAL SCIENCE

Phys Sci 101 (78101) Physical Science 4 Sem Hrs
Prerequisite: High School algebra and plane geometry. For students interested in understanding the major concepts of geology, chemistry, astronomy, and physics. It is intended to give the student a better grasp of the scientific method and to afford practice in critical thinking. (3-2)

Phys Sci 102 (78102) Physical Science 4 Sem Hrs
Prerequisite: Physical Science. 101. Continuation of Physical Science 101. (4-0)

Phys Sci 290-299 (78290-78299) Special Problems in Physical Science
(See Page 55)

PHYSICS

Phys 101 (79101) Applied Physics 5 Sem Hrs
Prerequisites: Mathematics 92 and Mathematics 93 or equivalent. Designed to cover the same subjects as high school physics course with emphasis on mechanics, heat and fluids, as required for technical programs. (5-2)

Phys 111 (79111) General Physics 4 Sem Hrs
Prerequisites: High school physics, and high school algebra I and II. Trigonometry recommended. Designed to familiarize the student with basic physical principles. Deals with mechanics, heat and sound. (4-3)

Phys 112 (79112) General Physics 4 Sem Hrs
Prerequisites: Physics 111. Continuation of Physics 111. Covers magnetism, electricity, light, and modern physics. (4-3)

Phys 121 (79121) Chemical Physics 2 Sem Hrs
Prerequisite: Mathematics 101. Principles of heat, sound, light and optics. (2-0)

Phys 211 (79211) Physics 5 Sem Hrs
Prerequisites: High school physics or equivalent, and Mathematics 161 or its equivalent. For engineers and science majors. Mechanics, heat and sound. (5-3)

Phys 212 (79212) Physics 5 Sem Hrs
Prerequisites: Physics 211 and Mathematics 162. Continuation of Physics 211. Magnetism, electricity, light, and modern physics. (5-3)

Phys 215 (79215) Engineering Mechanics, Statics 3 Sem Hrs
Prerequisites: Physics 211 and Mathematics 162. Mathematics 162 may be taken as a parallel course. Covers forces, components, vectors, moments, couples, methods of sections, stress in frame structures, cables, friction, first moments, products of inertia, and centroids. (3-0)

Phys 290-299 (79290-79299) Special Problems in Physics
(See Page 55)

SOCIAL SCIENCE DIVISION

Division Chairman, Richard E. Klein, Associate Professor

Professor	Assistant Professor	Instructor
Dr. Louis W. Doll	Harold D. Arman	John A. Dunn
Dr. Robert M. Roman	Jon W. Gosser	Mary K. Fayerweather
	David R. Kennedy	Clarence Hooker
Associate Professor	Jeremy W. Kilar	Stephen Konowalow
Dr. William E. Barber	Paul D. Moore	Thomas R. Ortenburger
Paul E. Carrico	Judith A. Wiley	Stantiago Peregrino
Dr. Jean G. Cheger	John R. Wilhelm	Jerry B. Tingstad
Patricia Drury	Jay J. Zumeta	Alicia R. Woodson
Lawrence E. Glynn		
Joseph M. Godard		
Clarence W. Hackbarth		
Calvin E. Hoerneman		
David C. Howard		
Paul E. Leek		

ECONOMICS

Econ 111 (81111) Essentials of Economics 3 Sem Hrs
Prerequisite: None. A survey of the operation of the American economy as a mixed economy and the principles of contemporary economic analysis that underlie its operation. (3-0)

Econ 112 (81112) Essentials of Economics 3 Sem Hrs
Prerequisite: Economics 111. Continuation of Economics 111 with major emphasis on surveying selected current economic problems and making application of economic analysis to these problems. (3-0)

Econ 114 (81114) Consumer Economics 3 Sem Hrs
Deals with everyday application of economic principles to personal decision-making and examines the role of the consumer in the market place and some of the pitfalls he encounters. (3-0).

Econ 221 (81221) Principles of Economics 4 Sem Hrs
Prerequisite: Sophomore standing or permission of instructor. The allocation problems of every society with emphasis on their solutions under the American capitalistic economy, preliminary analysis of the demand and supply activities of individuals, firms, groups, and governments; measuring national income and product, and explaining their fluctuations; monetary and banking institutions in relation to specialization and exchange, business cycles, and government fiscal and monetary policies. Not open to students with credits in Economics 111 or 112. (4-0)

Econ 222 (81222) Principles of Economics 4 Sem Hrs
Prerequisite: Economics 221. The commodity markets; prices as causes and effects of supply and demand; determinants of consumer buying and of the actions of firms as buyers and sellers; factor markets; wages, rent, and interest as special types of prices; the role of profits and profit expectations, growth and development problems; international trade and finance; alternative economic systems. Not open to students with credits in Economics 111 or 112. (4-0)

Econ 231 (81231) Industrial Relations 3 Sem Hrs
Prerequisite: Economics 111 or 221. Provides a study of the human factor in industry. Problems of wages, hours, unemployment, working conditions; federal and state laws which relate to labor and management relations; policies and practices of unions and management. (3-0)

Econ 232 (81232) Case Studies in Labor Relations 3 Sem Hrs
Prerequisite: Permission of instructor. Application of principles of industrial relations to collective bargaining case studies. Actual cases are discussed and evaluated in reference to current labor laws and personnel practices. (3-0)

Econ 240 (81240) Agriculture in the Economy 4 Sem Hrs
Prerequisite: Economics 221. Economic and management principles in agriculture. Demand for farm products, principles of marketing and price determination. Identification of individual and social problems related to agriculture. Alternative approaches to their solution. (4-0)

Econ 280 (81280) Money and Banking 3 Sem Hrs
Prerequisite: Economics 111 or 221. The role of money and credit in the economic system; emphasizing the operation of the federal reserve system and private financial institution. (3-0)

Econ 290-299 (81290-81299) Special Problems in Economics
(See Page 55)

HISTORY

Hist 111 (83111) A Survey of Early Western Civilization 4 Sem Hrs
Prerequisite: None. Political, social, economic, and cultural history of Europe from Prehistoric times to the end of the Reformation. Particular attention given to characteristics of civilizations and their relevant contributions to the modern world. (4-0)

Hist 112 (83112) A Survey of Later Western Civilization 4 Sem Hrs
Prerequisite: None. History 111 recommended. Political, social, economic, and cultural history of Europe from the 1600's to the present time. Particular attention is given to cultural and democratic movements and their influence on current history. (4-0)

Hist 113 (83113) History of Michigan 2 Sem Hrs
Prerequisite: None. History from the time of the first known human inhabitants through French and British domination, and finally American acquisition of Michigan leading to territorial status and statehood. Emphasis on Michigan history as a representative part of human culture. (2-0)

Hist 210 (83210) A History of Sub-Saharan Africa 3 Sem Hrs
Africa leads the way in pre-history with the independent development of man, the growth of cereal agriculture and the early appearance of the Iron Age Nok culture. Great civilizations flourished and fell. Islam, the slave trade, and the age of exploration made various impacts on Africa. Close on the heels of Europe's imperialistic "scramble" for Africa followed colonialism and ultimately black nation building. This course will concern itself primarily with a survey of African history prior to the white man and contemporary history (1860's to the present). (3-0)

Hist 214 (83214) Black Man in America: Pre Colombian Times to 1888 3 Sem Hrs
Prerequisite: None. History 221 recommended. Traces the interaction among Europeans, Africans, and aboriginal Americans with emphasis on the resultant slave trade and systems of slavery in North, Central and South America. Also examines sources and results of discrimination other than slavery. Theories and practices of abolitionists until emancipation in Brazil, 1888 are also studied. (3-0)

Hist 215 (83215) Black Man in the U.S.: 1888 to Present 3 Sem Hrs
Prerequisite: None. History 222 recommended. History of the shift in Negro attitudes from slave mentality to greater consciousness of racial pride and human dignity. Also traces the causes and effects of shifts in colored population from rural South to urban North and West. The impact of neo-segregation and other discrimination, as well as the national and international effects of more extensive race consciousness, will be examined. (3-0)

Hist 221 (83221) History of the United States to 1865 3 Sem Hrs
Prerequisite: None. An introductory course in American history from its immediate European background to the close of the Civil War. Special emphasis is given the growth of institutions and ideas. The political, economic, and social experience of the young Republic, and their influences on contemporary America are also examined. (3-0)

Hist 222 (83222) History of the United States from 1865 to the Present 3 Sem Hrs
Prerequisite: None. A survey of Modern America from the post Civil War period to the present with special emphasis on the industrial growth and agricultural protest. Experiments with imperialism, domestic reform, and world leadership and their influences on contemporary history are also studied. (3-0)

Hist 232 (83232) History of Russia 3 Sem Hrs
Prerequisite: History 111 or 112. History 112 especially recommended. A survey of the major lines of Russian political and cultural development from Kiev in the 900's to the present, with more emphasis on the 19th and 20th Centuries than on earlier eras. Student reports, on topics historical and cultural, constitute about 40 percent of course. (3-0)

Hist 244 (83244) History of Urban America 3 Sem Hrs
Prerequisite: An American History course or permission of instructor. A study of American cities from colonial times to the present. Several themes will be emphasized: European foundations of Urban America; Colonial solutions to the Urban challenge; and the problems of planning an American city. Factors in demographic and physical growth, as well as the growth of mass transit, racial and ethnic composition; housing and urban violence will also be included. (3-0)

Hist 290-299 (83290-83299) Special Problems in History
(See Page 55)

LAW ENFORCEMENT

LE 101 (84101) Police Recruit Training 4 Sem Hrs
Prerequisite: None. Designed to give the student the basic training necessary to assume the duties of a patrolman. Topics included are constitutional law, criminal law, laws of arrest, search and seizure, investigative techniques, first aid, firearms, motor vehicle laws, defensive tactics, and patrol techniques. Class meets for a minimum of 142 hours in a three-week period.

LE 102 (84102) Command Officers Training 3 Sem Hrs
Deals in both the theory and practice of good business procedures as applied to police operations and to improve the caliber of command officers. To be also concerned with conditioning the attitudes of command officers and creating an awareness of the responsibilities of command positions within a police department. (3-0)

LE 110 (84110) Introduction to Law Enforcement 3 Sem Hrs
Prerequisite: None. Philosophical and historical backgrounds; agencies and processes; administrative and technical problems; and career orientation. (3-0)

LE 111 (84111) Police Organization and Administration 3 Sem Hrs
Prerequisite: Law Enforcement 110. An analysis and study of the functional divisions of the modern police department. Functions to be studied will include management operations, coordination of activities, communications, recruiting, training, public relations, and a look at the future of law enforcement. (3-0)

LE 112 (84112) Police Patrol Procedures 3 Sem Hrs
Study of patrol as a basic police function, including both the theoretical and functional aspects. Responsibilities of, purposes, methods, types and means of police patrol. Examination of patrol strength layout, beats, technological advancements affecting the patrol officer. (3-0)

LE 180 (84180) Retail Security 2 Sem Hrs
Prerequisite: None. This course covers the organization and management of retail security for all types of retail outlets, large and small. Particular attention is given to retail security programs already functioning, the effectiveness and scope of these programs, and the changing problems in retail security. (2-0)

LE 184 (84184) Industrial Security I 3 Sem Hrs
Prerequisite: None. Theoretical approach to the role of security officers in business and industry. Plant and business protection. Legal responsibilities and authority of plant security officers. Problems of business, industrial espionage and petty thefts. Report writing. (3-0)

LE 185 (84185) Industrial Security II 3 Sem Hrs
Prerequisite: Law Enforcement 184. Practical approach to the role of security officers concerning fire prevention, safety programs, first-aid and internal security. (3-0)

LE 210 (84210) Introduction to Criminal Investigation 3 Sem Hrs
Introduction to criminal investigation procedures including theory of an investigation, conduct at crime scenes, collection and preservation of physical evidence; methods used in police science laboratory; finger prints, ballistics, documents, serology, photography, and related forensic sciences. (3-0)

LE 220 (84220) Crime Laboratory Techniques 3 Sem Hrs
Prerequisite: Law Enforcement 210. Field techniques for the preservation and collection of physical evidence at the scene of crime or civil disturbance. Application of techniques of crime photography, finger print lifting, plaster casting, blood stain preservation, and other methods of laboratory analysis. (3-3)

LE 250 (84250) Introduction to Juvenile Delinquency 3 Sem Hrs
Prerequisite: None. Juvenile delinquency theories, work of youth agencies, legislative involvements, and new developments in the prevention of juvenile crime. (3-0)

LE 260 (84260) Legal and Criminal Behavior 3 Sem Hrs
Application of psychological principles, methods, and techniques to legal and criminal problems and procedures. Examination of the formation, detection, prevention, and rehabilitation of criminal behavior. Psychological implications of testimony, legal arguments, trial tactics, and other courtroom procedures. Examination of interviewing and interrogation techniques and applicability of the polygraph process. (3-0)

LE 270 (84270) Evidence and Criminal Procedure 3 Sem Hrs
Prerequisite: None. Deals with rules of evidence and particular import at the operational level in law enforcement and with criminal procedure in important areas such as arrest, force, and search and seizure. (3-0)

LE 271 (84271) Criminal Law 3 Sem Hrs
Prerequisite: None. Elements and proof in crime of frequent concern in law enforcement with reference to principal rules of criminal liability. Importance of criminal law at the enforcement level is considered from crime prevention to courtroom appearance. (3-0)

LE 290-299 (84290-84299) Special Problems in Law Enforcement
(See Page 55)

POLITICAL SCIENCE

Pol Sci 103 (85103) Introduction to American Government 3 Sem Hrs
Prerequisite: None. (Not open to students with credit in Political Science 111.) Organization and functions of the political, electoral, legislative, administrative, and judicial processes of federal, state, and local governments. (This course satisfies the State requirements in political science.) (3-0)

Pol Sci 111 (85111) American Government and Politics 4 Sem Hrs
Prerequisite: None. (Not open to students with credit in Political Science 103.) A study of the American political system, utilizing the techniques of political science. Particular emphasis is placed on the organization and functioning of the electoral, legislative, administrative, and judicial process of the national government. Comparisons are made between federal, state, and local governments. Recommended for pre-law or social science majors or minors. (This course satisfies the State requirements in political science.) (4-0)

Pol Sci 128 (85128) Introduction to Urban-Public Service Problems 4 Sem Hrs
Prerequisite: Political Science 111 or 103. Covers the services normally performed in major areas of specialization (e.g., Urban Professional Assistant, and Social/Health Services Assistant) and the organizational relationships of these specialties in an urban setting. (4-0)

Pol Sci 129 (85129) Public Relations for Public Service Employees 3 Sem Hrs
Prerequisite: A basic general course in public service and community relations. Incorporates material from several social science disciplines and focuses on how public service personnel build good will, handle complaints, discharge follow-up responsibilities, etc. (3-0)

Pol Sci 212 (85212) State and Local Governments 3 Sem Hrs
Prerequisite: A course in political science or permission of the instructor. Development, structure, organization and problems of the state and local units of governments along with their relation to the federal government. (3-0)

Pol Sci 220 (85220) Minority Group Politics 3 Sem Hrs
Prerequisites: Political Science 103 or 111, or the permission of the instructor. An examination of the dynamics of minority group politics in the American political system. The nature, role, techniques, and objectives of ethnic groups will be analyzed, with special emphasis on the Afro-American and the Mexican-American. (3-0)

Pol Sci 221 (85221) Comparative Government 3 Sem Hrs
Prerequisite: A course in political science or history. The study of major European and selected non-western political systems. Emphasis is placed on the techniques of comparative analysis and concepts of modernization, political development and political culture. (3-0)

Pol Sci 225 (85225) International Relations 3 Sem Hrs
Prerequisite: A course in political science or history. Introduction to the study of international politics. Covers the nation-wide system, cold war politics, colonialism, and the problems of political stability. Also includes a survey of regional and international organizations. (3-0)

Pol Sci 227 (85227) American Political Parties 3 Sem Hrs
Prerequisite: A course in political science or United States history. History, structure, and functions of political parties in the United States; interaction of political parties, pressure groups, and public opinion. (3-0)

Pol Sci 228 (85228) Internship in Public Service 3 Sem Hrs
Prerequisite: Political Science 128. Upon completion of prerequisite, the student is assigned to available positions in governmental units for 20 hours per week for one semester. Students interested in taking the Federal Civil Service Exams will be given pre-exam training. Interns will meet each week to report on their job projects. (3-20)

Pol Sci 290-299 (85290-85299) Special Problems in Political Science
(See Page 55)

PSYCHOLOGY

Psy 101 (86101) Applied Psychology 3 Sem Hrs
An introductory course in basic principles of human relations that may be used in business and industry. Emphasis on understanding motivation and behavior in practical situations; help in developing an appreciation of our own behavior so that students may work more successfully with supervisors and with peers. (3-0)

Psy 211 (86211) General Psychology 4 Sem Hrs
Prerequisite: Twelve hours of academic credit. Scientific principles underlying experience and behavior. Designed to give an understanding of human behavior as affected by learning, motivation, intelligence, and personality. (4-0)

Psy 223 (86223) Child Psychology 3 Sem Hrs
Prerequisite: Psychology 211. Facts and generalization concerning growth of children from conception to adolescence; this course deals with physical, mental, social and emotional development. (3-0)

Psy 231 (86231) Psychology of Personality 3 Sem Hrs
Prerequisite: Psychology 211. Application of psychological principles to inter-personal behavior; study of factors in the development of constructive personal adjustment as influenced by human relations in home, school, and community. (3-0)

Psy 290-299 (86290-86299) Special Problems in Psychology
(See Page 55)

SOCIOLOGY

Soc 121 (88121) Marriage and Family 3 Sem Hrs
Prerequisite: None. The study of family relationships in anticipation for, and participation in, marriage and family life. Consideration is given to historical, social, psychological, biological, and economic factors which contribute to the success or failure in family relationships. Credits are transferable as elective or minor credits, but, in accordance with individual college policies, may not apply toward a major in sociology. (3-0)

Soc 150 (88150) Community Organization and Analysis 3 Sem Hrs
A survey of the various public and private social agencies present in the community. Primary emphasis is upon the specific purposes of these agencies and their roles in community organization. This course is designed primarily for students enrolled in Public Service Curricula to acquaint them with the resources available for meeting community problems. (3-0)

Soc 211 (88211) Principles of Sociology 3 Sem Hrs
Prerequisite: None. An analysis of the structure and function of society and community through consideration of the basic generalizations and concepts utilized in sociology. (3-0)

Soc 212 (88212) Social Problems 3 Sem Hrs
Prerequisites: Sociology 211 or Psychology 211. An analysis of contemporary social problems within the theoretical framework of social change, value conflicts, and social deviation; an attempt to examine resulting political as well as personal disorganization. (3-0)

Soc 215 (88215)

Sociology of Minority Groups (Inter-group Relations) 3 Sem Hrs
Prerequisite: None. A sociological approach to the study of prejudice and discrimination against minority groups, primarily in the United States. The emphasis is upon the analysis of both causes and solutions to the problems of prejudice and discrimination. (3-0)

Soc 231 (88231) Social Anthropology

3 Sem Hrs

Prerequisite: Sophomore standing or consent of instructor. An introduction to man in his cultural setting. Emphasis will be given to the study of primitive cultures and the implications for understanding our own culture. (3-0)

Soc 290-299 (88290-88299) Special Problems in Sociology

(See Page 55)

TECHNICAL DIVISION

Division Chairman — Don E. Holzhei, Assistant Professor

Associate Professor

Thomas R. Freiwald
Wilbert C. Kleinsmith
Richard E. Miller
Donald A. Miotto
William J. Streib
Robert N. Tinker

Assistant Professor

Darrell R. Berry
John T. Hoffmann
Michael L. Holcombe
Arthur M. Leinberger
Craig A. McClain
Ralph M. McGivern
Joseph R. Paquin
Alvin H. Schmidt
Arnold A. Schwartz

Instructor

William S. Guild
Kenneth W. Masck

ARCHITECTURE**Arch Tech 101 (91101) Materials and Methods of Architectural Construction**

2 Sem Hrs

Prerequisite: None. A study of the basic building materials of the construction industry. Emphasis on handling and placing the various materials into typical assemblies and arrangements. (1-2)

Arch Tech 105 (91105) Architectural Drafting I

7 Sem Hrs

Prerequisite: None. Exercises in the fundamentals of Architectural Drafting including linework, lettering, symbols, orthographic and pictorial representation. Exercises in the development of freehand and instrument drawings of wall, roof, and floor assemblies of various types of construction. Introduction to construction drawings. (3-12)

Arch Tech 106 (91106) Architectural Drafting II

7 Sem Hrs

Prerequisite: Architectural Technology 105 or permission of the instructor. Development of construction drawings for a residence including architectural, electrical, and mechanical. Development of outline specifications. (3-12)

Arch Tech 111 (91111) Mechanical and Electrical Equipment for Buildings

4 Sem Hrs

Prerequisite: None. A study of the fundamentals and operating principles of mechanical and electrical equipment for buildings; including water systems, fire protection, plumbing systems, air conditioning systems, electrical systems, vertical transportation, sound and signal systems, and acoustics. (4-0)

Arch Tech 202 (91202) Specifications and Contracts

2 Sem Hrs

Prerequisite: None. A study of basic principles and legal implications of contracts, architectural office practice, specifications, and building codes. (2-0)

Arch Tech 203 (91203) Estimating

2 Sem Hrs

Prerequisite: Architectural Technology 101 or permission of the instructor. A study of the principles of calculating labor and material costs and of building construction. (2-0)

Arch Tech 205 (91205) Architectural Drafting III

7 Sem Hrs

Prerequisite: Architectural Technology 106. Development of construction drawings for a non-residential building. Introduction to concrete and steel construction, with their various detailing requirements, symbolisms, and characteristics in terms of installation of mechanical and electrical systems. Development of outline specifications. (3-12)

Arch Tech 206 (91206) Architectural Drafting IV

7 Sem Hrs

Prerequisite: Architectural Technology 205. Interpretation of an architect's sketches into a meaningful preliminary which would indicate a buildable building in the envelope displayed. Development of construction drawings based on the preliminary. Simulated office procedure using project teams. Development of outline specifications. (3-12)

Arch Tech 211 (91211) Elements of Structural Design

4 Sem Hrs

Prerequisite: Physics 101 or permission of the instructor. Review of basic mechanics. Analysis of live and dead loads on simple structural members. Use and limitations of wood, steel and concrete handbooks in structural design. Use of structural calculations in solving basic structural problems. (4-0)

Arch Tech 212 (91212)**Theory and Practice of Structural Steel Design** 4 Sem Hrs

Prerequisite: Architectural Technology 211 or permission of instructor. A detailed study and practice of methods used in structural steel design, drafting, and fabrication. Includes load and stress analysis, structural framing and connection design, and drafting techniques used in the development of shop drawings. This course is not required in any curriculum, nor may it be used as a substitute or as an elective in the Architectural Technology Curriculum. (3-2)

Arch Tech 221 (91221) Site Preparation 2 Sem Hrs

Prerequisite: None. A study of the fundamentals of site preparation including utilities, soil testing, landscaping, drives, and walkways. Elements of surveying including: use of equipment, measurement of distances, angles, elevations, contours, drainage, and other site work related to building design and location. Development of a site plan and details. (1-2)

Arch Tech 231 (91231) Concrete Fundamentals 3 Sem Hrs

Prerequisite: None. A detailed study of the history, manufacture, characteristics and types of cement. Selection and design of concrete mixtures; sampling and testing plastic concrete; placing, finishing, and curing of concrete. Concreting during hot and cold weather. (3-0)

Arch Tech 290-299 (91290-91299) Special Problems in Architectural Technology

(See Page 55)

AUTOMOTIVE**ATS 101 (94101) Service Orientation and Maintenance** 12 Sem Hrs

Prerequisite: None. The primary objective of this course is to provide the student with the basic skills necessary for employment in the automotive service industry. Emphasis is placed upon job orientation, efficient shop organization, safe work habits, and the development of accuracy and care in the performance of mechanical duties. The student will be introduced to a background knowledge of the components and operating principles of the automobile through a program which is saturated with practical experience and with lecture classes utilized on an "as needed" basis. (6-18)

ATS 102 (94102) Electrical and Fuel System Service 12 Sem Hrs

Prerequisite: None. The student is exposed to the information necessary to perform efficient tune-ups and electrical services, to provide experiences in component disassembly, testing and reassembly, and to perform needed bench tests of these components. Speed, quality, and thoroughness are stressed in this phase of the program along with the development of efficient work habits. "Hands on" experience is again emphasized through a utilization of lectures on an "as needed" basis. (6-18)

ATS 103 (94103) Suspension and Brake Service 12 Sem Hrs

Prerequisite: None. Emphasis is placed upon proper procedure involved with alignment and brake services, and on the ability to merchandise these alignment and brake services. The full utilization of "hands on" experience provides for development of diagnostic abilities along with development of sound repair and work habits which provides the basis for the maturation of a qualified alignment and brake specialist. (6-18)

AT 101 (92101) Service Orientation and Maintenance 3 Sem Hrs

Prerequisite: None. Students will perform "wait-on" maintenance and service jobs on customers' automobiles. Emphasis is on the types of service employers expect their technicians to perform. (2-3)

AT 103 (92103) Engines 3 Sem Hrs

Prerequisite: Automotive Technology 101. (May be taken concurrently.) Principles, design, construction, operation, and service procedures of modern gasoline engines. Students are prepared for practical experience in engine maintenance and service. (2-3)

AT 105 (92105) Laboratory Practices 2 Sem Hrs

Prerequisite: Automotive Technology 103. (May be taken concurrently.) Students make practical application of service procedures and techniques included in previous technical courses. Primary objective is to provide students with supervised practical experience. (0-5)

AT 106 (92106) Automotive Electricity 3 Sem Hrs

Prerequisite: None. Course content is based on electrical fundamentals and practical applications. Instructional units include electricity and magnetism, storage batteries, ignition systems, charging systems, starting systems, and instrumentation. (3-0)

AT 110 (92110) Diagnosis and Tune-Up 3 Sem Hrs

Prerequisites: Automotive Technology 103 and Automotive Technology 106. Study of automotive diagnoses and tune-up procedures as they pertain to the function and control of the engine, fuel, ignition, starting and charging systems. (2-3)

AT 111 (92111) Cranking and Charging Systems 3 Sem Hrs
Prerequisites: Automotive Technology 101 and Automotive Technology 106. Comprehensive study of components and circuitry involved in starting and charging systems including the function, design, construction, operation, trouble shooting, and service procedures. (2-3)

AT 112 (92112) Laboratory Practices 2 Sem Hrs
Prerequisites: Automotive Technology 110 and Automotive Technology 111. (May be taken concurrently.) Students make practical application of service procedures and techniques included in previous technical courses. Primary objective is to provide students with supervised practical experience. (0-5)

AT 113 (92113) Fuel Systems 3 Sem Hrs
Prerequisite: None. Students are exposed to the theory of carburation along with a detailed study of the construction, operation, and trouble shooting practices involved with all components of a fuel system. (3-0)

AT 114 (92114) Emission Control Systems 2 Sem Hrs
Theory, service, and emission control applications form a major portion of the course. Objectives are centered around crankcases, exhaust, and fuel storage emission control systems. Student involvement will include classroom discussion, service, and parts merchandising of various emission control applications. (2-0)

AT 206 (92206) Wheel Alignment 3 Sem Hrs
Prerequisite: None. Study of automotive suspension systems, including nomenclature, theory of operation, and service and repair procedures. Emphasis is on passenger car and light truck suspension systems, wheels and tires, steering gears, and related components. (2-3)

AT 207 (92207) Brake Service 3 Sem Hrs
Prerequisite: None. Passenger car and light truck brake systems are studied with emphasis placed on nomenclature, theory of operation, and service and repair procedures. Included in the program are power brake, emergency brake, and disc brake systems. (2-3)

AT 208 (92208) Laboratory Practice 2 Sem Hrs
Prerequisites: Automotive Technology 206 and Automotive Technology 207. (May be taken concurrently.) Students make practical applications of service procedures and techniques included in previous technical courses. Primary objective is to provide students with supervised practical experience. (0-5)

AT 209 (92209) Electrical Circuits 3 Sem Hrs
Prerequisite: Automotive Technology 106. Provides a thorough understanding of chassis and body wiring diagrams as they apply to diagnosis, replacement or repair of horn, lighting, accessory, signaling and warning devices. Stress on interpretation of the function and location of units with respect to diagnosis, service and replacement of defective units. (3-0)

AT 211 (92211) Driveline Fundamentals 7 Sem Hrs
Prerequisite: None. A course emphasizing the fundamentals of major driveline components such as clutches, standard transmissions, over-drive transmissions, automatic transmissions, differentials, and rear suspension systems. Service of these components is an integral part of the total program. (5-5)

AT 212 (92212) Laboratory Practice 2 Sem Hrs
Prerequisite: Automotive Technology 211. (May be taken concurrently.) Students make practical application of service procedures and techniques included in previous technical courses. Primary objective is to provide students with supervised practical experience. (0-5)

AT 213 (92213) Service Management 4 Sem Hrs
Prerequisite: None. An orientation to the automotive industry: study of common channels of distribution, the major franchise, and allied lines. Included is the dealership, its location, building facilities and organizational structure. Emphasis is placed on service management responsibilities, organizing service personnel, organizing facilities, establishing objectives, and controlling performance. (4-0)

AT 290-299 (92290-92299) Special Problems in Automotive Technology
(See Page 55)

DRAFTING

Dr 105 (93105) Elements of Industrial Drafting 3 Sem Hrs
Prerequisite: None. Elements of drafting for technicians. Lettering standards, use of instruments and equipment. Orthographic and multiview drafting and sketching, sections and conventions, axonometric and oblique drawing. (1-5)

Dr 106 (93106) Intermediate Industrial Drafting 3 Sem Hrs
Prerequisite: Drafting 105. Continuation of Drafting 105. Fasteners, dimensioning, layout, details, assembly, auxiliary projection and sketching. (1-5)

Dr 110 (93110) Dimensional Measurement 4 Sem Hrs
Prerequisite: Mathematics 91 or equivalent. This course is designed around the practical application of fractions, decimals, and whole numbers as they relate to the drafting room or machine shop. Content includes measuring tools, weights and measures, geometric construction and measurement, percentages, ratios, speeds of pulleys and gears, speeds and feeds of machine tools, and the Table of Natural Functions and its relationship with practical application in the industrial setting. (4-0)

Dr 111 (93111) Engineering Drawing 5 Sem Hrs
Prerequisite: None. Introduction to engineering drawing, freehand sketching, the tools we work with, drafting equipment, the methods we use, freehand lettering, how to draw lines, types of lines, drafting geometry, projection of views, sectioning views, drafting conventions, dimensioning, lettering notes, bill of material, assembly drawings, detail drawings, pictorial drawings, how to check a drawing, types of drawings. (3-6)

Dr 112 (93112) Engineering Drawing 5 Sem Hrs
Prerequisite: Drafting 111. May be taken concurrently with Drafting 111. This course is a continuation of Drafting 111. (2-7)

Dr 113 (93113) Tool Design 5 Sem Hrs
Prerequisites: Drafting 112 and Mechanical Technology 111. Introduction to tool design, tool drawings, tools, fourteen steps to design a tool, the workpiece, locators, clamps, guide bushings, bushing plates, support jacks, actuating cams, controls, machine components, bases, mounting feet, fasteners, dimensions and notes, bill of material, the design process, types of tools. (3-6)

Dr 114 (93114) Tool Design 5 Sem Hrs
Prerequisites: Drafting 112 and Drafting 113. May be taken concurrently with Drafting 113. This course is a continuation of Drafting 113. (2-7)

Dr 115 (93115) Die Design 5 Sem Hrs
Prerequisites: Drafting 114, Mechanical Technology 111, and Drafting 110. Introduction to die design, presses and press accessories, the material strip, the blank, fourteen steps to design a die, scrap strips, die blocks, blanking punches, piercing punches, punch plates, pilots, gauges, finger stops, automatic stops, strippers, fasteners, die sets, dimensions and notes, bill of material, types of dies. (3-6)

Dr 116 (93116) Die Design 5 Sem Hrs
Prerequisites: Drafting 114 and Drafting 115. May be taken concurrently with Drafting 115. This course is a continuation of Drafting 115. (2-7)

Dr 155 (93155) Orthographic Projection 3 Sem Hrs
Prerequisite: None. Use of instruments, lettering, principles of orthographic projection, auxiliary views, sections, dimensioning, pictorial drawing and white printing. (1-5)-

Dr 210 (93210) Creative Design Sketching 3 Sem Hrs
Prerequisite: Drafting 105, or Drafting 155 and/or equivalent. The course provides opportunity to develop reasonable skill in freehand sketching, and greater awareness of its industrial application and problem solving potential. Function rather than beauty of the sketch is stressed. Topics covered: Review of the multiview and pictorial projection; observation and proportion; on-the-spot sketching; emphasis techniques; exploded assemblies; design and redesign of products and processes; (problem and idea); group presentation methods. (1-4)

Dr 216 (93216) Electrical Drafting 2 Sem Hrs
Prerequisites: Drafting 105, accompanied by Electronic Technology 214. Standard electrical symbols, elementary wiring diagrams, and electrical codes are studied and applied. (0-4)

Dr 256 (93256) Descriptive Geometry 3 Sem Hrs
Prerequisites: Drafting 106, 111 and 112, or 155. Emphasis on space visualization and processes of solution. Problems comprise combinations of points, lines, planes, intersections, developments, warped surfaces, true angles, true size and shape, vectors, shades and shadow, and conics. (1-5)

Dr 257 (93257) Advanced Industrial Drafting 3 Sem Hrs
Prerequisites: Drafting 256 and Mechanical Technology 205. Mechanical Technology 205 may be taken concurrently. Specific assigned problems requiring knowledge in the use of design layouts. Development of skills in the organization and presentation of complete sets of working drawings; details, assemblies, and related specifications. Apply knowledge of a variety of manufacturing and fabrication processes. Use of standards, manufacturers' and suppliers' catalogs and engineering handbooks. Introduction to drafting symbols, tabulation techniques, and engineering office procedure. (1-5)

Surv 205 (93205) Elements of Surveying 3 Sem Hrs
Prerequisite: Mathematics 102 or equivalent. Elements of surveying; use of equipment, measurement of distances, angles, and evaluation, analysis and use of verniers; traverses and topographic surveys and mapping. (1-4)

Dr 290-299 (93290-93299) Special Problems in Drafting
(See Page 55)

ELECTRONICS

Eln Tech 101 (95101)

Industrial Electricity and Electronics

3 Sem Hrs

Prerequisite: High school algebra or equivalent. A survey of the fundamentals of electricity and electronics. (2-2)

Eln Tech 111 (95111) Fundamentals of DC Circuits

4 Sem Hrs

Prerequisite: Mathematics 101 or equivalent. (May be taken concurrently.) Theory and applications of direct current electricity including resistance, basic circuit laws, magnetism, and direct current instrumentation. (3-2)

Eln Tech 112 (95112) Fundamentals of AC Circuits

3 Sem Hrs

Prerequisite: Electronic Technology 111, Mathematics 101. (Mathematics 102 may be taken concurrently.) Theory and applications of alternating current electricity including representation of AC wave, impedance, basic circuit computations, and alternating current instrumentation. (2-2)

Eln Tech 115 (95115) Electronic Devices

2 Sem Hrs

Prerequisite: Electronic Technology 111 or equivalent. (May be taken concurrently.) Study of transistors, integrated circuits, and vacuum tubes. Emphasis is placed on mathematical and graphical techniques used to describe their characteristics. (1-2)

Eln Tech 116 (95116) Electronic Devices and Circuits

2 Sem Hrs

Prerequisites: Electronic Technology 115, Electronic Technology 112 or equivalent. (Electronic Technology 112 may be concurrently.) Basic amplifiers and their characteristics. Both transistor and vacuum tube circuits are covered. (1-2)

Eln Tech 150 (95150) Electronics for Scientists

4 Sem Hrs

Prerequisite: Mathematics 162 or equivalent. A course providing a broad background in electrical and electronic principles for the scientist who uses control systems, electronic instrumentation, and data processing in his work. Subjects covered will include the theory and application of amplifiers, power supplies, and other systems used in modern instrumentation and process control. Special emphasis will be on feedback systems and uses of operational amplifiers. (3-2)

Eln Tech 152 (95152) Control Theory for Scientists

4 Sem Hrs

Prerequisite: Electronic Technology 150. A course providing a broader background in basic control theory and application. Subjects to be covered will include fundamental control theory and applications, modern filter systems, and instrumentation schemes. (3-2)

Eln Tech 212 (95212) Electronic Circuits

3 Sem Hrs

Prerequisite: Electronic Technology 112. Study of the principles of operation and industrial applications of vacuum and gas tubes, photoelectric cells, and cathode ray tubes. Basic circuits using these tubes are studied. (3-2)

Eln Tech 213 (95213) Solid State Devices

3 Sem Hrs

Prerequisites: Electronic Technology 112 and 116. Study of the theory and applications of transistors and other semi-conductors. The practical uses of these devices in industrial and communications circuits are emphasized. (2-2)

Eln Tech 214 (95214) Design of Electronic Circuits

4 Sem Hrs

Prerequisite: Electronic Technology 213. Elementary principles of operation of rectifiers, amplifiers of various types, modulation, demodulation and detection are studied. (3-2)

Eln Tech 215 (95215)

Electronic Control and Automation

4 Sem Hrs

Prerequisites: Electronic Technology 241 and 213. Automatic control devices including regulating and automatic feed-back system are studied. Induction heating, resistance welding, process timing, and similar circuits are examined. (3-2)

Eln Tech 221 (95221)

Electrical and Electronic Measurements

3 Sem Hrs

Prerequisites: Physics 112, accompanied by Electronic Technology 116. A study of the design, application, and limitations of direct and alternating current, and electronic measuring instruments. (2-2)

Eln Tech 231 (95231) Electronic Fabrication

3 Sem Hrs

Prerequisite: Electronic Technology 216. Use of electrical hand tools, wiring, safety practice, techniques of chassis fabrication, performance testing, and trouble shooting. (1-4)

Eln Tech 235 (95235) Electrical Circuits

4 Sem Hrs

Prerequisite: Mathematics 101 or equivalent. Basic direct and alternating current circuits and their applications in machine operation and control; electrical measuring instruments. (3-2)

Eln Tech 241 (95241)

AC and DC Machines and Controls

2 Sem Hrs

Prerequisite: Electronic Technology 112. Basic study of AC and DC machines and their controls. (2-0)

Eln Tech 252 (95252) Basic Industrial Instrumentation

4 Sem Hrs

Prerequisite: Electronic Technology 116. (Electronic Technology 213 may be taken concurrently.) A study of components of applied instrumentation, including transducers, processing systems and

recorders. Mechanical, electrical, hydraulic, pneumatic, acoustical, and photometric topics are covered. (3-2)

Eln Tech 290-299 (95290-95299) Special Problems in Eletronic Technology
(See Page 55)

INDUSTRIAL SUPERVISION

IS 110 (90110) Industrial Supervision 3 Sem Hrs
(Required if Industrial Supervision 294 is not elected.) Prerequisite: None. This course is designed to give the student a general understanding of the following areas: Introduction to management; organization structures; product development; plant location and equipment; cost controls, material and production controls; personnel administration and management. (3-0)

IS 112 (90112) Production Planning and Control 4 Sem Hrs
Pre-production planning of the most economical methods, machines, operations, and materials for the manufacture of a product. The planning, scheduling, routing, and detailed procedure of production control. (4-0)

IS 114 (90114) Plant Layout 3 Sem Hrs
Prerequisite: Industrial Supervision 112. Arrangement of stock, machines, layout of aisles, and use of space and material handling for the highest efficiency of production. (3-0)

IS 116 (90116) Materials Handling 3 Sem Hrs
Prerequisite: None. A survey of materials handling elements, the unit load packaging, bulk handling, the economics of materials handling, improving existing handling methods, justification for handling equipment, special handling techniques and the management of the materials handling divisions in industrial organizations. (3-0)

IS 118 (90118) Industrial Safety 2 Sem Hrs
Safety fundamentals as related to the economics of accident prevention, analysis of accident causes, mechanical safeguards, fire prevention, plant housekeeping, occupational diseases, first aid, safety organization, protective equipment, and the promotion of safe practices. (2-0)

IS 210 (90210) Cost Analysis 3 Sem Hrs
Prerequisite: None. Surveys fundamental mechanics of accounting, principles of account classification, financial and operating statements, and the generation of cost data according to the principles of engineering economy. Examines applications of cost accounting data and engineering economy cost data to specific management decision areas through selected case problems. (3-0)

IS 212 (90212) Problem Analysis and Decision Making Analysis 3 Sem Hrs
Course description to be determined by participants.

IS 294 (90294) Seminar in Supervision 3 Sem Hrs
Course description to be determined by participants.

iS 290-299 (90290-90299) Special Problems in Industrial Supervision
(See Page 55)

MECHANICAL

Mech Tech 111 (97111) Manufacturing Processes 3 Sem Hrs
Prerequisite: None. Fundamental production processes including ore reduction, steel making, heat treating, foundry practice, hot and cold working, press work, and production machining processes. (3-0)

Mech Tech 205 (97205) Basic Kinematics 3 Sem Hrs
Prerequisites: Physics 101 or Physics 111, Mathematics 102 or equivalent. Study of basic motion concepts; velocities and acceleration in mechanism, motion curves; cams; gears; belt, chain, and gear trains; miscellaneous mechanisms. (2-2)

Mech Tech 213 (97213) Machine Tools 3 Sem Hrs
Prerequisite: None. Introduction to the industrial shop. Safety, materials, hand tools, precision instruments, purpose and operation of machine tools. Course content is developed around the use of drill presses, lathes, shapers, mills, grinders, and saws. (1-5)

Mech Tech 214 (97214) Advanced Machine Tools 3 Sem Hrs
Prerequisite: Mechanical Technology 213 or permission of instructor. This course concerns itself with a continuation of basic machine tool operations, with emphasis placed on threads, tapers, boring, grinding and cutting tools. The basic machine tool is studied in greater depth than in the introductory course. (1-5)

Mech Tech 215 (97215) Methods Engineering 3 Sem Hrs
Prerequisite: Mechanical Technology 111. Fundamentals of motion and time study, methods of motion analysis and principles of effective work flow; designing and evaluating improved methods. (3-0)

Mech Tech 220 (97220) Introduction to Fluid Power 3 Sem Hrs
Prerequisite: Mathematics 102 or equivalent. Fundamentals of fluids, fluid circuits and their applications in machine operation, control and measuring devices. (2-2)



Mech Tech 221 (97221) Materials and Metallurgy 3 Sem Hrs
Prerequisite: None. Structure, use and treatment of ferrous, non-ferrous, and non-metallic materials as used in mechanical design. (3-2)

Mech Tech 222 (97222) Pneumatic Power and Control 3 Sem Hrs
Prerequisite: Mechanical Technology 220 or permission of instructor. Study of compressed air power in industrial and commercial applications. Mathematical and graphical treatments in design of circuits. Emphasis on circuits which sense and control mechanical, fluid, electrical, or thermal systems. Includes fluid logic and fluidics. (2-2)

Mech Tech 250 (97250) Electronic Mechanics 3 Sem Hrs
Prerequisites: Physics 111 or Physics 101 and Mathematics 102 or equivalent. Study of forces acting on rigid bodies, including applications of these forces to practical design problems. Concepts of stress in tension, compression, torsion, and shear in various combinations are developed and utilized. (3-0)

Mech Tech 251 (97251) Mechanics 3 Sem Hrs
Prerequisites: Physics 111 or Physics 101 and Mathematics 102 or equivalent. Study of forces acting on rigid bodies by analytical means; equilibrium laws for various force systems; centroids, center of gravity; movements of inertia, introduction to elementary dynamics. (3-0)

Mech Tech 252 (97252) Strength of Materials 3 Sem Hrs
Prerequisite: Mechanical Technology 251. Fundamentals of stress and strain, torsion, shear, bending, and deflection of beams, combines stresses, riveted and welded joints. (2-2)

Mech Tech 256 (97256) Machine Design 3 Sem Hrs
Prerequisite: Mechanical Technology 251. General problems of force and motion applied to simple machines; design stress and dynamic loading; power and power transmission; shafts in bending and torsion; keys and keyways; pulleys, belts and gears; couplings; bearings; clutches; cylinders, screws, fasteners; springs; fits, allowances, and tolerances. (3-0)

Mech Tech 261 (97261) Numerical Control 3 Sem Hrs
Prerequisite: None. A basic course in numerical control applied to machine tools. History and description of types of control systems and the capabilities of each. Elementary parts programming is covered. The course is designed for students who have some knowledge of basic machine processes. Offered in evening only. (3-0)

Mech Tech 281 (97281) Quality Control 3 Sem Hrs
Prerequisite: Mathematics 102 or equivalent. Designed for individuals in industry who are interested in the basic philosophy of quality control and those interested in developing special skills in quality management. Included in the course are general concepts of data analysis and variation, basic probability concepts, quality control charting, machine and process capability studies, and acceptance sampling procedures. (3-0)

Mech Tech 282 (97282) Theory of Foundry Practices 3 Sem Hrs
Prerequisite: None. The course is designed to acquaint the student with foundry practices and the theoretical basis for them. Subjects covered include properties of liquids, pure metals and alloys, equilibrium and non-equilibrium solidification, gating and feeding of castings, cast iron metallurgy, molding and sand technology, refractory and melting practice, finishing operations, casting inspection, and casting design. Offered in evening college only. (3-0)

Mech Tech 290-299 (97290-97299) Special Problems in Mechanical Technology
(See Page 55)

RESIDENTIAL CONSTRUCTION

RC 101 (98101) Construction Print Interpretation 3 Sem Hrs
Prerequisite: None. Instruction in this course includes trade terminology and description of the various views of working drawings, pictorial drawings, and the basic procedures in development of these drawings. Also included is the interpretation of specifications and job information as they pertain to construction and layout. (3-0)

RC 102 (98102) Building Materials 4 Sem Hrs
Prerequisite: None. A study of the basic building materials used primarily for residential construction. (4-0)

RC 103 (98103) Framing Square 5 Sem Hrs
Prerequisite: None. A specialized course in carpentry mathematics and the use of the framing square. Instruction will include practical mathematics as it applies to a carpenter and practical application in the use of the framing square as in roof framing and stair framing. (5-0)

RC 104 (98104) Construction Laboratory I 2 Sem Hrs
Prerequisite: None. A course centered around the care and use of woodworking tools. Included is study of tool terminology, purpose and uses of various tools and the functional principles of woodworking hand tools, including those which are power or pneumatically driven. (1-3)

RC 105 (98105) Building Site Surveying 5 Sem Hrs
Prerequisite: Residential Construction 103. A course designed to introduce students to the tools and instruments used for surveying. Methods and procedures of developing a building layout are also included. (5-0)

RC 106 (98106) Concrete Slab Work 4 Sem Hrs
Prerequisite: Residential Construction 102. A study of the practical methods and procedures of preparing and setting concrete forms for such areas as basement floors, garage floors, driveways, sidewalks, patios, etc. (4-0)

RC 107 (98107) Footings and Foundations 5 Sem Hrs
Prerequisite: Residential Construction 101, 102, and 103. This course offers instruction in layout principles and construction methods of form buildings, trade, terminology, characteristics of concrete, and techniques of mixing and placing concrete. (4-3)

RC 201 (98201) Rough Framing and Outside Finishing 5 Sem Hrs
Prerequisite: Residential Construction 103. Instruction is given in the construction of techniques used in all phases of framing and exterior finishing. (4-3)

RC 202 (98202) Building Materials Estimation 3 Sem Hrs
Prerequisites: Residential Construction 102 and 103. A course designed to introduce the methods and procedures commonly used in determining the costs of construction materials. (3-0)

RC 203 (98203) Construction Laboratory II 5 Sem Hrs
Prerequisites: Residential Construction 103 and 104. A course designed to allow time for practical application of the various construction procedures that are typically encountered on the job. Problem solving is a feature of this course. (3-6)

RC 204 (98204) Inside Finishing and Hardware 5 Sem Hrs
Prerequisites: Residential Construction 103 and 104. Instruction includes principles of interior construction, joinery and installation, and finishing of all types of interior trim. (4-3)

RC 205 (98205) Cabinet Making and Millwork 5 Sem Hrs
Prerequisites: Residential Construction 201, 202, and 203. A study is made of the construction of, the placement of, and installation procedures of cabinets used in residential buildings. (4-3)

RC 206 (98206) Electrical-Mechanical-Plumbing Equipment 3 Sem Hrs
Prerequisites: Residential Construction 201, 202, and 203. A course designed to study the involvements of equipment installation as they pertain to construction and carpentry. (3-0)

RC 290-299 (98290-98299) Special Problems in Residential Construction
(See Page 55)

COMMUNITY SERVICES

Introduction. Community services have existed at Delta College since 1961. A specific direction was determined by the college Board of Trustees when the Office of Community Affairs was established in 1967. The activities described reflect the intent of Delta College to become a relevant part of the lives of the men, women, and children in the counties of Bay, Midland, and Saginaw.

Community Services include educational, cultural, recreational, support and research programs. Although these programs and services are frequently considered to be beyond academic classes and student activities, the fact that both students and faculty actively participate is an indication of our commitment to social relevancy.

Present Community Services

- Community Education Programs
- Women's Education Programs
- Conference Development
- Advisory Committees
- Cultural Activities
- Public Television (WUCM-TV)
- Career Training Programs
- College Relations Services
- Student Volunteer Program
- Research and Development Services
- Speakers Bureau
- College Tours
- Travel Programs
- Community Research
- In-Service Training
- Institutes, Seminars, Workshops
- General Consulting
- Federally Financed Programs

The Community Services Team

- Office of Community AffairsKarl F. DuBois, Dean
- Community EducationRonald J. Crossland, Associate Dean
- BusinessGerald J. Cesarz, Coordinator
- HealthStaff
- Home Economics, Family Life, and Consumer EducationBillie Thomas Gagne, Coordinator
- Liberal ArtsJohn E. Briggs, Coordinator
- Vocational TechnicalDouglas F. Wendling, Coordinator
- Women's Education ProgramMarguerite B. Saro, Director
- Conference CoordinationJohn L. Briggs, Director
- Research and DevelopmentLeslie Myles, Director
- College RelationsJohn H. Krafft, Director
- Planetarium ProgramsRobert Hilbert, Director
- WUCM-TV Channel 19 Television .William J. Ballard, Director

Federally Financed Programs

- Career Preparation InstituteJohn Pugh, Director
- Family Living Resource Center ...Betsy Little, Coordinator
- Project H.O.M.E.Rex Patterson, Coordinator
- Saginaw Inmate Rehabilitation ProjectCornelius Johnson, Director

COMMUNITY EDUCATION PROGRAMS

Delta College Community Education serves the needs of the community which are not met by two year degrees or academic certificate programs.

Community Education includes self-development, individual goals, community development and goals of organizations and groups.

Self Development describes the activities designed to change and improve the lives of individual participants through planned educational and counseling experiences.

Community Development describes the activities which focus upon cooperative efforts with community organizations, associations and agencies to improve the social, physical, economic, and political environment of the community, such as housing, transportation, air pollution, human relations, and public safety.

Community Education opportunities are primarily designed for adults and offer learning experiences more conducive to adult learning than conventional methods.

The five developmental areas of Community Education are:

1. Business
2. Health
3. Liberal Arts
4. Vocational Technical-Industrial
5. Vocational Technical-Home Economics and Family Life

DISCIPLINE COORDINATORS

Business Programs Coordinator

Gerald J. Cesarz, A70

To investigate, develop, promote, implement, manage and evaluate business oriented educational programs to give persons the opportunity to acquire or improve skills and knowledge by using internal and external resources.

Typical courses would include the following areas:

- Accounting
- Real Estate

Banking
Insurance
Income Tax
Management
Communication
Transportation
Secretarial Skill Training

Health Program Coordinator

Ronald J. Crossland, Ph. D.
Office A68

To plan, develop and implement courses and programs in the allied health field. Particular emphasis is placed on inservice and upgrading programs in new and emerging health occupations.

Liberal Arts Program Coordinator

John Briggs, Office A75

Responsible for the development, implementation and coordination of non-credit and service credit courses in the general education area with emphasis upon the individual's personal growth, interests, and self-improvement. Programming for groups is available.

Program Areas Include:

Arts and Crafts
Common Sense and Beyond
Do Yourself a Favor
Hobbies — For Fun and Profit
Human Relations Institute Offerings
Music
Recreational and Healthful Activities
The World Around Us

Vocational-Technical Program Coordinator

Doug Wendling, Office A-67

Responsible for the development, implementation and coordination of courses or programs for individuals and industry in the community service area having specific vocational-technical training needs. Consults with local professional organizations, including trade unions, engineering societies and other technical related societies in an effort to provide timely and pertinent educational opportunities for the area.

Typical courses and programs include:

Industrial Pre-Apprentice
Residential Construction

In-Service Courses for Auto Service Personnel
Electricity/Electronics/Commercial Radio
Stationary Boiler Fireman
Air Conditioning/Refrigeration/Heating

Home Economics, Family Life, and Consumer Education Program Coordinator

Billie Ann Gagne, Office A-74

Responsible for the development, implementation, and coordination of service credit courses, designed for personal, home, and family life, as well as, occupational preparation in the areas of:

Clothing and Design
Foods and Nutrition
Home Furnishing and Interior Decorating
Child Development

OTHER COMMUNITY AFFAIRS BENEFITS

Service Credit

Community Service Programs are provided for persons desiring self-improvement and personal enrichment. An accumulative transcript will be maintained as a matter of service for each individual and will be available upon request.

Current criteria for successful completion are matters of determination in each program. However, the records kept will indicate whether the student has successfully met the objectives of the specific courses. Accumulation of service credit for applicability to Academic Curricula will be evaluated on an individual basis. Individual assistance will be provided upon written request to the Office of Community Affairs.

Scholarships and Financial Aid

Limited financial aid is available for individuals who are unable to pay their own tuition. If you know of a person who could benefit from a listed class or classes, but is unable to pay the tuition, please call 686-0400, ext. 267 for further information. Ask about our veterans benefits.

Personal Counseling

This service provides opportunities for development through individual and group counseling. This includes aptitude interest testing, G.E.D. counseling, career information, job placement, individual interviews, as well as education direction.

Included here are courses and workshops offered through the Delta College Human Relations Institute.

Educational Extension

This service is designed to increase educational opportunities to the community by locating classes in the community itself. This is done through establishing evening classes in a variety of locations, including classes in cooperation with local schools, churches, government agencies, private associations, television courses through Channel 19 and neighborhood extension centers.

EDUCATION EXPANSION

This service provides educational programming designed to reach beyond the limitations of College credit restrictions. The programs stress the upgrading of skills as well as the learning of new career occupations.

SOCIAL OUTREACH

This service deals with the continuing social problems of our tri-county community and seeks answers to the critical issues facing our service area.

CULTURAL DEVELOPMENT

This service offers opportunities for individual community members to participate in a wide variety of cultural activities including arts tours at home and abroad, drama courses on location in community theatres, crafts and arts programs both on campus and in the community and self-development through other forms of creative involvement.

LEISURE TIME ACTIVITY

This service encourages community members to participate in a variety of hobby and recreational activities, such as sports instruction, senior citizens' activities, and such unusual courses as Interior Decoration, Taxidermy, Photography, Yoga, Poodle Grooming, Hypnotism, etc.

CONTRACT PROGRAMS

Business and Industry often need special training or retraining programs for employees whose jobs have become obsolete or for newly created positions. Among these we would include programs for the upgrading of minority and disadvantaged individuals. This service offers the individual corporation or business an opportunity to structure a course to meet their specific training needs.

Specialized new training programs from 5 to 20 weeks have been run for the following companies:

Saginaw Steering Gear
Saginaw News
Saginaw Public Schools
Dow Chemical
Saginaw Model Cities
Saginaw Housing Commission
Unity Urban Non Profit Housing Corp.
Interested corporations and business should contact Dr. Ronald J. Crossland, Community Education Office

FEDERALLY FINANCED PROGRAMS

1. CAREER PREPARATION INSTITUTE

The C.P.I. Program is designed to assist disadvantaged students of all cultures, who are unable to compete in the college setting due to the lack of basic skills of math, communications and general sciences.

For more information, call 686-0400

2. FAMILY LIVING RESOURCE CENTER

The project is designed to provide basic orientation and training to disadvantaged persons, which can lead to occupations in human services including: Child Care Assistance; Food and Nutrition; Health Service Assistance; Clothing Construction and Management.

For more information, call 686-0400

3. PROJECT HOME

Home Owners Managing their Environment is a project designed to assist the new low-income home owner in coping with his new environment, and to prevent inter-group conflict. To provide assistance and information which will help the recipient manage and maintain his new home more effectively, and to provide educational assistance and counseling to assist the recipient in better financial planning and consumer purchasing education.

For more information, call 754-4211

4. SAGINAW INMATE REHABILITATION PROJECT

The project is designed to assist a minimum of 175 inmates. The program will implement programs of basic education, high school completion, entry level college classes, alcohol and drug rehabilitation, vocational counseling and individual counseling and self evaluation. Many various community agencies will work and participate in the program.

For more information, call 799-9200

CERTIFICATE PROGRAM ACTIVITIES

Community Education offers the following certificate programs. Upon completion of the requirements for each sequence, a certificate is awarded to the student. Many employers encourage employee education through tuition reimbursement for these programs.

- Blue Print Reading
- ABC Shorthand
- Law Enforcement
- Labor Union Education
- Legal Secretaries
- Medical Assistant
- Certified Professional Secretaries
- Stationary Boiler Foreman
- Auto Mechanics' Series
- Electricians' Series
- Professional Engineering Refresher
- Income Tax Practices
- Chartered Life Underwriters
- Home Builders' Series
- Plumbing

WOMEN'S PROGRAM

The Women's Program offers day and evening, short and extended courses, seminars, and workshops designed to provide enrichment for adult women. Women's Programs also operate as a referral agent for those who wish to pursue an academic degree. Representative programming includes Clothing & Design, Food & Nutrition, Home Management & Child Care, Interior Decor & Home Furnishings, Writing, Crafts & Arts, and Holiday Idea Workshops. Courses are offered for both service and certificate credit.

AWARENESS FOR WOMEN

A lecture series entitled Awareness For Women, provides an insight into the changing role of women in modern society and includes facets of expression and self-realization for today's women to explore.

Professional lecturers include psychologists, psychiatrists, sociologists, economists, authors, physicians, etc. Since all women cannot find the flexibility of scheduling classroom work into daily schedules, the lecture series is incorporated with Opportunity for Outreach, a course that does not require attendance on the college campus.

WOMEN'S OPPORTUNITIES WORKSHOP

Since millions of American women are working and millions of others want to, the Women's Opportunities Workshop provides assistance

in the following areas: pre-work insight, awareness of work opportunities that exist, testing and counseling, transition into academic work, training for a new career and upgrading previous training skills.

Refresher courses are offered in economics, oral communications, math, spelling, correct English usage, grooming, human relations, and the art of self selling and acquiring confidence.

Opportunities for training exist in the following areas: Clothing Alterations, Day Care, Retailing, Typing and Filing, Nutrition Aid, and introduction to Executive Maintenance, Beginning Typing and Filing, Typing and Filing Enrichment, Beginning Stenography, Stenography Enrichment, The Psychology of the Office, Beginning Office Machines, Teacher Aid Training, Beginning Real Estate Sales. Along with the development of a Counseling Center, G.E.D. Preparation and Qualification Testing will be included in future workshops. To date, The Workshop has assisted ADC (Aid to Dependent Children) mothers in training and counseling to help remove them from the welfare rolls.

LET US KNOW

All workshop training, special courses, and seminars on contemporary life are open to the community. Programs for Women are developed upon request and as a response to need. If you would like the Office of Women's Programming to offer a particular course or program, contact Delta College, ext. 219.

CONFERENCE DEVELOPMENT

The Office of Conference Development provides services to business and industry, professional groups, educational associations, community organizations, college-related groups and the general public in the planning of conferences, including workshops, seminars, institutes, symposia and lectures.

Conference services include:

1. Planning program content and format, speakers and consulting.
2. Costs and registration fees.
3. Housing, meals and meeting rooms.
4. Programs, announcement, registration materials, meal tickets, badges and other items.
5. Mailing programs and registration materials.
6. Registration.
7. Audio-visual aids and recording equipment with a trained operator.
8. Publicity and public relations.
9. Tours and entertainment.
10. Conference rosters.
11. Publication of conference proceedings and results.
12. Open and closed circuit television.
13. Evaluation of conference.

ADVISORY COMMITTEES

The advisory committees at Delta College serve as a bridge of communication between the educator and the career world.

Advisory Committees consist of employers, organizations and employees within a particular field, as well as Delta College personnel. They assess and evaluate manpower needs, immediate and future, and provide descriptions of career skills needed. Established programs with similar objectives are researched or data is collected about the need for new programs.

In the development and evaluation of career entry and up-grading programs, there are over 350 tri-county residents representing their specific fields of work, including health, technical, business and public service areas.

The Advisory Committee is a vital part of the function upon which a community college builds its academic programs.

CULTURAL ACTIVITIES

Cultural interests of the Delta College Community are given a wide range of expression. Perhaps most typical of the numerous cultural events are those found in the Summer Festival of Arts, which offers ballet, creative writing, a summer conservatory of music, a seminar in theatre, crafts & arts and photography. Also a part of the summer program are the Concerts in the Court, chamber music and opera which have been widely acclaimed by patrons of the Saginaw Valley Area.

The Delta College Fine Arts Series has brought to the campus a variety of lecture and concert performances throughout the school year. Available to the general public, these events are offered to students at a nominal cost. Also available to students at a nominal cost or with no admission charge, are most of the major musical, theatrical, and artistic events of the larger communities. Displays of art by Delta students and by students of public and parochial schools, are supplemented by "Traveling Shows" designed to enrich the aesthetic experience of Delta students.

WUCM-TV (CHANNEL 19)

Television facilities at Delta College provide an educational opportunity for the tri-county area comparable to that available in some of the largest metropolitan centers of the United States.

As a logical extension of the community service responsibility of a community college, Delta College owns and operates WUCM-TV Channel 19, a public broadcasting station, affiliated with national and regional educational networks.

The responsibility of television at Delta College is to provide educational, cultural and public affairs programs to the residents of the

district which Delta College serves. To fulfill this responsibility, WUCM-TV broadcasts daily instructional programs to public and parochial schools; training programs to business and industry; children's programs, cultural programs, and public affairs programs to the general home audience.

TOURS AND SPEAKERS

College-wide tours are available to all interested persons and are conducted by either the student Tour Bureau or representatives of Community Affairs Office. Special tours of television, WUCM-TV (Channel 19), and the Data Processing Center, are conducted by experienced staff members. Tours range from 30 to 90 minutes and may be combined with a planetarium showing.

Delta College's Speakers Bureau provides speakers for any professional, civic or service organization and for schools and interested groups. College faculty and staff members are available to speak on a wide range of topics.

For more information, contact the College Relations Office.

PLANETARIUM

The Delta College Planetarium is located in Room B-203 at the northeast corner of the college. The facility is available to organizations and groups of individuals without charge.

Arrangements for planetarium shows are made through the College Relations Office, Ext. 206. The sky is presented as it appears at any time of the day or night for any time in the past or future from any point on earth. The Planetarium can improve on nature with projection devices that are helpful analytical tools necessary in the study of space science and by relating astronomy to other subjects such as mathematics and geography.

By showing the student what happens and how to observe it, the Planetarium offers an experience which aids clear conceptualization, faster learning and longer retention.

As a visual aid the facility is not an end in itself but one which, when used wisely in conjunction with the traditional classroom in pre-planetarium orientation and follow-up, can provide an excellent program involving hundreds of students each year.

Some areas in which the Planetarium can be helpful are:

1. **Teachers' Workshops.** A series of programs to acquaint elementary and high school teachers with the nature of space and the astrosience lab. (Sponsored by Senior University.)
2. **Elementary School.** A series of programs integrated into their units in grades three to eight.

3. Special Events. A special program for general education concerning a certain event, either natural or planned, in space.

4. Clubs. Special programs devoted to particular interest of these groups in such areas as celestial navigation, radio astronomy and extra-terrestrial life.

5. Community.

- a. Adult lecture series.
- b. Saturday morning youth groups.
- c. Evening industrial, civic, and general community groups.

6. Testing. Provided for groups taking part in the evaluative program, to determine the amount of measurable learning taking place during a particular Planetarium visitation.

COMMUNITY DEVELOPMENT

Delta College faculty, students, and staff, as well as supportive physical resources, make community research and study available to qualified organizations. Faculty and staff combine as individual and interdisciplinary consulting teams to provide a further source of community development.

Studies as diverse as the needs of senior citizens to computerizing high school administrative functions are typical community development services.

The data census bank at Delta College, for example, has stored on computer the latest census information. This information will be made available to the business-industrial sector of the tri-counties upon request.

Another example is the Student Volunteer Program. Over 150 students volunteer their time in agencies as various as Legal Aid, inner-city projects, hospital units, senior citizens organizations and many other federal programs and state and local agencies.

At present, several offices are involved in community development. However, primary responsibility rests with the Offices of Research and Development, Community Affairs, and College Relations.

FACULTY

EMERITUS FACULTY

Devol, Lloyd (1961-1963)	Omans, Margaret (1961-1963)
Elkin, Cova (1961-1968)	Parks, Dr. Harry (1961-1970)
Ewing, Meta (1961-1964)	Plum, Kathleen (1961-1966)
Freed, Samuel (1961-1969)	Williams, Fred (1961-1963)
Fritzscheier, Hulda (1961-1968)	Wilson, George (1961-1968)
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